University News

A WEEKLY JOURNAL OF HIGHER EDUCATION MONDAY, JUNE 26, 1995 Rs. 7.00

SHIVENDRA K. VERMA

Some Aspects of Higher Education in India

G. RAMACHANDRAM

Managing a College Effectively

SANTOSH PANDA, SURESH GARG & VIJAYSHRI

IGNOU and Undergraduate Science Education in North-East India

AMEARAO T. UPLAONKAR

National Education Test
— A Close Look

A. K. MUKHERJEE

From Idealism to Survival
— Convocation Address

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Association of Indian Universities

INDIRA GANDHI INSTITUTE OF PHYSICAL EDUCATION & SPORTS SCIENCES

(University of Delhi)

B-Block, Vikas Puri, New Delhi-110 018

Applications are invited on plain paper from both open merit and reserve category candidates (giving name, father's name, date of birth, academic qualification, experience, present employment with emoluments, permanent address and attested copies of all testimonials, caste certificate (in case of SC/ST candidates) and latest passport size photograph) for the following posts so as reach the undersigned by **10th July, 1995**.

1. **Lecturers** in Physical Education (Three), English (One), and Sports Sciences (Two). **Pay Scale** Rs. 2200-4000.

   Qualifications : Good academic record with at least 55% marks or an equivalent grade (second class 'C' in seven point scale) at Master's Degree level in the relevant subject from an Indian university or an equivalent degree from a foreign university.

   Candidates besides fulfilling the above qualifications should have cleared the eligibility test for Lecturers conducted by UGC, CSIR or similar test accredited by UGC.

   Provided that the university may make any relaxation in the above qualifications with the approval of the University Grants Commission.

   For Lecturer in Sports Sciences, preference will be given to the candidates having specialization in Anthropometry/Physiology of Exercise (Human Physiology)/Biomechanics (Bio-Physics)/Food and Nutrition.

   Desirable for Lecturer in Physical Education.

   i) Diploma in coaching from a recognised institution in any one of Gymnastics, Basketball, Kabbadi, Weightlifting, Swimming, Volleyball, Judo, Table-Tennis, Hockey, Yoga.

   ii) Participation in inter-universty or inter-state competition.

   iii) Teaching Experience in the relevant subject of two years.

   iv) A doctorate degree or research work of an equivalent standard in the relevant subject.

2. **Medical Officer-cum-Lecturer** - (One) **Pay scale** Rs. 2200-4000 plus NPA.

   Qualifications : M.B.B.S. from a recognised university with 3 years experience. Preference will be given to the candidates having diploma in Sports Medicine or experience of teaching Health Education/Anatomy & Physiology to physical education students.

3. **Nurse** - (One) **Pay scale** Rs. 1400-2300.

   Qualifications : Diploma in General Nursing and midwifery from recognised university or institution and registered as 'A' Grade Nurse.

   Desirable - 2 years experience in ward duty in General Hospital.

Note : (i) One out of five posts in each category, is reserved for candidates belonging to SC/ST.

(ii) 3% posts are reserved for Physically handicapped candidates, however the prescribed qualification in no way shall be relaxed for these candidates.

(iii) The Institute reserves the right not to fill-up any or all of these posts.

D.K. Kansal
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IN THIS ISSUE

Some Aspects of Higher Education in India 1
Managing a College Effectively 6
IGNOU and Undergraduate Science Education in North-East India 9
National Education Test 14
Convocation
The Tamil Nadu Dr. M.G.R. Medical University, Madras 19
Campus News
Satellite Link Up for IGNOU 29
Gandhiji in the Changing World 31
National Workshop on Lokshala Project 33
Agriculture
International Seminar on Resource Management 35
News from UGC
Countrywide Classroom Programme 37
Book Review 38
Research in Progress 41
Theses of the Month 43
Classified Advertisements 47

Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association.

Editor :
SUTINDER SINGH

Some Aspects of Higher Education in India

Shivendra K. Verma*

Education is central to national development and educational planning is central to national planning. Investment in education should therefore be viewed as investment in human resource development which is crucial for the growth of any country. Education is a social responsibility in which the costs have to be looked at not merely in terms of item based expenditure but in terms of the role of education in the socio-economic, intellectual, and cultural growth of a country.

Education, all education, is a process of growth, of the externalization and actualization of human potential. We should look upon educational programmes and projects as one integrated system with a network of mutually reinforcing subsystems : elementary education, secondary education, and tertiary education. Technically, education beyond 12 years of schooling is known as higher education. The general pattern in India is 10+2+3+2. What is to be noted here is that it is the "pluses" and "bridges", linking levels that are of crucial significance. Tertiary or higher education should not be treated as an appendix or appendage but as a vital constituent of the total education system. It represents a set of "higher" values and "new" functions. It is at the level of higher education that we produce our teachers, administrators, scientists, doctors, and technologists. What we are trying to say is that it is our universities which produce highly skilled and enlightened manpower needed for the political, economic and social transformation and development of our country. It is true that "the main task is to strengthen the base of the pyramid, which might come close to a billion people at the turn of this century. Equally, it is important to ensure that those at the top of the pyramid are among the best in the world". [Modified National Policy on Education 1992, p 50]. Pandit Nehru recognized this when he said: "if all is well with the universities, all would be well with the nation".

Coping with Numbers

There has been an appreciable growth in higher education in India since independence. It was as high as 10% in the 1950's and 60's but declined to about 5.3% in the 70's, and was 4.2% in the 80's [*Pillai*, 1992]. Towards the end of 1994, India had 218 university level institutions including 35 "deemed to be universities". Of these university level institutions, 151 are traditional universities, or institutions for specialised studies in disciplines covered by traditional universities, 33 are agricultural universities, 15 technical institutions, 12 medical institutions and 7 open universities. There are 7520 colleges, 46.11 lakh students with undergraduate enrolment of 40.62 lakhs [i.e. 88% of all students] and a little over 250,000 teachers [based on UGC, 1993; AIU, 1994].

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The faculty wise break-up of student enrolment is asunder [1992-93]:

Humanities and Social Sciences	:	40.4%
Commerce	:	19.6%
Science	:	21.9%
Education	:	2.3%
Engineering and Tech.	:	4.9%
Law	:	5.3%
Medicine	:	3.4%
Agriculture and Vet. Science	:	1.4%
Others	:	0.8%

While 46 lakhs looks impressive, it represents less than 6% of India's young people of the relevant age group. This percentage of students in higher education is ridiculously small compared to that in the United States [about 50%] and Europe [about 20%].

Institutions offering programmes in the interrelated areas of Teaching, Research, Production of Materials, and Extension, may be categorised into: (a) Universities (state, central, and private), (b) Institutions deemed to be universities, (c) Institutions of national importance, and (d) Colleges. They offer a variety of academic programmes and follow different academic and administrative systems.

Are these institutions in a position to meet the academic demands of the country? The answer is 'yes' and 'no'. It has now been realised that the traditional system of education based on classroom governed face to face interaction cannot cope with the increasing number of students applying for admission to colleges and universities. Recent researches in the field of open learning indicate that the best way of taking higher education to the doorsteps of learners is by using the system of open learning and distance mode. With an approximate 4.5% annual growth in the number of students in higher education, India will have, at the end of this century, some 60 lakh students. The enrolment in the undergraduate classes of the Arts, Commerce and Science faculties will be about 53 lakhs. Even with an increase in the number of [non-viable] colleges, the conventional universities will not be able to cope with this number. The open universities will have an important role to play in catering to the needs of the coming generations. There are at present seven open universities in the country and forty nine universities which have departments/schools of distance learning/correspondence courses. They will have to enlarge their programmes and offer a larger variety of courses covering both conventional and vocational streams. Ideally, each state should have an open university. If a system of transfer of credits between open and conventional universities is worked out, it will not only facilitate mobility but also make the system work more efficiently and smoothly.

It is felt that education at both the secondary and tertiary stages must be organised at a number of levels to cater to the needs of a variety of learners — preparing learners to play job-oriented and interest-oriented roles. This is one of the reasons why the Government of India attaches a lot of importance to vocational education. The National Policy on Education (NPE 1986] advocated a systematic, well-planned programme of vocational education which would be a distinct stream. This would not only provide vertical mobility to the students receiving vocational education but also offer an opportunity for greater diversity in course offerings in the university system in general. Steps have been taken to motivate students to go in for vocational courses after completing higher secondary education. Attempts are being made to produce vocation based and communication centred courses at the undergraduate level.

The Resource Constraint

The main problem being faced by the tertiary level institutions is that of funding—limited resources and reduced budgetary provisions but increasing demands and unbridled hike in prices. It may be useful therefore, to look at the pattern of funding and expenditure.

Expenditure, [by the centre and the states] on higher education is estimated by Dandekar [1991] to be about Rs. 4000 crores. It works out to be less than Rs. 10,000 per student per annum. As far as students in universities and colleges in the states are concerned, even this figure is illusory, for, the bulk of UGC funding [71.0%] is for the 19 university level institutions and 54 colleges under the centre. The point to note here is that the central universities are maintained by the UGC. The state level universities which are maintained by the state governments receive grants from the UGC for developmental purposes and new, innovative programmes. In policy documents the Government of India is committed to spending 6% of GNP on education. By latest estimates it spends only 3.7% on all types of education, and about 0.8% on higher education. In this context, it is a matter of grave concern that the share of education out of the total development expenditure has come down from 7.6% in the first Plan to 3.5% in the Seventh Plan. India ranks 115th in the world in terms of investment in education as a percentage of GNP. Amongst the countries with a population of 10 crores and above, India is at the very bottom, barring Bangladesh. [*Towards an Enlightened and Humane Society (TEHS)* Report of the Acharya Ramamurti Committee 1990, p. 360]. Consider the following data from *TEHS* 1990 p.361 :

Expenditure on Education

Country Group	*1982*		
Africa	4.9	Developed nations	6.2
America	6.4	Developing nations	4.3
Asia	5.1	India [1986-87]	3.9
Europe [including USSR]	5.6		
Oceania	5.8		

[*TEHS* 1990 p.361]

What has been stated emphatically in *TEHS* 1990 is that "the first step should be to provide for at least 6% of the GNP for education which has not so far been provided, though this has been repeatedly urged for over a quarter of a century". [p.361] However, the statement made by the Prime Minister at the 'Education For All' summit held in New Delhi in December, 1993, that the government funding on education would be increased to 6% of GNP by the end of the eighth plan [1997], is reassuring.

Assessment and Accreditation

The stated objectives of India's education policy are dual. Education is seen to be a process of empowerment, through the imparting of knowledge, skills and values to the individual; and as an instrument of social change which is to be promoted by providing opportunities for upward social and economic mobility. To facilitate the process of empowerment, universities and institutions that have demonstrated a desire and an ability to develop have to be encouraged. Programmes that promote the growth of quality [like the Special Assistance Programme for University Departments] need to be strengthened. Financial assistance must be based on an assessment of performance, and the assessment needs to be more vigorous than made by 'visiting committees' or 'evaluation committees'. A detailed analysis of past performance and potential must be done using performance indicators identified on the basis of their applicability to Indian conditions. The Jarrat Report [1985] could be the starting point of an exercise for evaluating the most relevant parameters.

A National Assessment and Accreditation Council [NAAC] was established on September 16, 1994, with headquarters at Bangalore. The principal objectives of this Council are to grade institutions of higher education and their programmes; stimulate the academic environment in these institutions; help the institutions in realizing their academic objectives; promote changes, innovations and reforms necessary for the above purposes; and, encourage innovations, self-evaluation and accountability in higher education. In the case of professional education the establishment and recognition of institutions is presently regulated by different professional associations including the All India Council for Technical Education (AICTE), the Medical Council of India (MCI), Indian Nursing Council, Dental Council of India, Pharmacy Council of India, Council of Architecture, and Bar Council of India. The All India Council for Technical Education set up a National Board of Accreditation (NBA) in October, 1994 for periodic evaluation of institutions under it, and their programmes. The Department of Electronics, Government of India, started in 1990 a scheme 'Department of Electronics — Accreditation of Computer Courses' [DOEACC] for accreditation of computer training programmes offered by private professional institutions. Four levels of courses, namely O [foundation], A [advanced diploma], B [graduate] and C [postgraduate] are recognized, with DOEACC conducting the examinations.

Quality Improvement

In order to improve the quality of education at the tertiary level the University Grants Commission (UGC) has introduced the following innovative programmes. What the UGC needs to do is to build in a Monitor into its system. The Monitor will have two functions : (a) to focus on how the programmes are working, and (b) to modify and change them in the light of the feedback received from teachers and students.

(i) Restructuring and redesigning of Courses : Model curricula developed by the UGC's Curriculum Development Centres in 27 subjects [science, social sciences & Humanities] have been sent to the universities;

(ii) Setting up of 48 Academic Staff Colleges to organize orientation and refresher courses for teachers;

(iii) Introduction of vocational courses at the undergraduate level in order to enable students to acquire a certain level of proficiency in job-related skills required for entry into gainful employment, particularly self-employment;

(iv) Setting up of Educational Media Research Centres to produce audio and video materials to reinforce and enrich classroom teaching programmes. This scheme, called 'Countrywide Classroom Programme' aims at taking education to remote, rural and backward areas of the country;

(v) Expansion of the distance learning and open university systems;

(vi) Setting up of a National Assessment & Accreditation Council;

(vii) Introduction of National Eligibility Test (NET) for recruitment of lecturers and selection of Junior Research Fellows;

(viii) Use of bilingual media of instruction: the emphasis should be on the adoption of Modern Indian Languages as the media of instruction at the university level. It is sad that not much research has been done in this area;

(ix) Supporting minor and major research projects;

(x) Computer assisted teaching;

(xi) Setting up of Autonomous Colleges. [111 Autonomous Colleges upto 1993]; The main objective of providing autonomy to selected colleges is to help them undertake innovations, design need based curricula, evolve learner centered functional methods of teaching, and frame their own courses, examination systems, and modes of admission. The thinking underlying this scheme is that it will enable them to become centres of excellence;

(xii) Setting up State Councils of Higher Education. The main function of these councils is to plan and coordinate tertiary level academic programmes in the states and establish a meaningful link with the UGC;

(xiii) Academic Calendar : Minimum of 180 days for teaching;

(xiv) Supporting Research — Applied & Fundamental — by instituting JRFs and SRFs;

(xv) Setting up of Inter University Centres for providing common facilities for research in Nuclear Science, Astronomy and Astro Physics, Atomic Energy, and Crystal Growth.

(xvi) Exploring the possibilities of establishing university-industry linkages in metropolitan areas;

(xvii) College Science Improvement Programmes (COSIP): The main objective of this programme is to accelerate the development of the Science capabilities of undergraduate level institutions and to initiate a process of continuous updating of methods, materials, and curricula;

(xviii) College of Humanities and Social Science Improvement Programme (COHSSIP) : This programme is designed to bring about improvement in the teaching of subjects in the areas of humanities and social sciences at the undergraduate level with special reference to (a) innovations in teaching and testing strategies, (b) use of audio and video materials, (c) designing remedial and bridge courses, and (d) making library services and facilities accessible to learners and teachers.

Recommendations

1. In order to make the education system of our country work effectively and efficiently, we must impress upon the government the need for enhancing the allocation to education. An anaemic education system cannot contribute to the growth of a nation. What is needed is the introduction of three interrelated measures : revenue generation, cost reduction, rationalization of the pattern of governmental funding (plan and non-plan). The real question that we have to answer is: who should bear the burden of funding higher education? Is it to be borne by the government or by the receivers of education or by the users of educated people, that is, by the employers? Should it be shared by all the partners? If the answer to the last question is 'yes', it will generate another question : what should be the pattern of sharing?

2. A university is created by an Act of Parliament or by an Act of Legislature. Therefore, it is morally and legally the duty of the central and state governments which create universities to support them. It is for this reason that the responsibility for maintaining state universities is that

of the state governments concerned and of central universities of the central government. The constitutional requirement makes it incumbent upon the Centre/UGC to ensure that higher education does not languish because of lack of appropriate funding. If it is felt on academic grounds that a university should be set up in a particular area/region/city, a proposal should be drafted by a body of academics and not by politicians. This proposal should then be carefully examined by the UGC. It is only after the UGC has cleared the proposal, that it should be taken up by the state/central government.

3. Educational institutions should be encouraged to generate additional resources and permitted to plough them back into their system. Consultancy and extension services should be strengthened. Members of the teaching and non-teaching staff should be paid honorarium for generating additional resources.

4. Educational institutions should make maximal utilization of their infrastructural facilities. They should also introduce economy measures, like cutting down expenses on frills attached to annual days, convocations, seminars, workshops, and conferences.

5. Funding of university level institutions should be based on (a) their efficient performance perceived in terms of student enrolment and introduction of (i) innovative projects and programmes, (ii) need-based courses, (iii) courses designed for the weaker sections of the society; (b) their contribution to knowledge reflected in their publications and research.

6. Networking of libraries, laboratories, and studios in the same city can help universities save a lot of money.

7. The potential of 'distance mode' and 'open learning system' should be exploited as an economy measure and also for taking education to the doorsteps of learners.

8. Those students who are not in receipt of any financial help from any of the funding agencies but have been found on merit suitable for admission to tertiary level courses should be offered loan in order to enable them to pursue higher studies. The rules and modalities for operating this scheme (including the repayment of loan amount) should be worked out. It may be a good idea to explore the possibility of setting up Educational Development Corporation/Banks in every university town/city. In India higher education continues to be the passport to upward socio-economic mobility. Keeping in view the national policy and philosophy regarding helping people move up, students coming from the lower income group cannot and should not be denied access to higher education. One way of solving this problem is to consider the following:

    (i) Higher fees for those who can pay;

    (ii) National/State Scholarships to be awarded on the basis of a rigorous test;

    (iii) Educational loans for those who are not in receipt of any financial assistance from any source;

    (iv) Merit scholarships for students coming from economically and socially weaker sections of the society, to be awarded on the basis of a test.

10. A National Apex Body should be set up for bringing about greater coordination and integration in the planning and development of higher education system including research and for networking national level institutions.

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Managing a College Effectively

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A college is an educational institution where young people acquire knowledge and higher values of life. It is a place where ambition is instilled in the younger generation. The college has a vital role to play in moulding the character of young people and make them responsible individuals of tomorrow. However, unfortunately, today colleges have lost the traditional role of imparting broad knowledge and value based education. Instead, what we find is gross indiscipline and unhealthy academic atmosphere in the campuses.

One of the primary reasons for this is incompetent college administration. A college Principal does not command high esteem. His image is that of a megalomaniac who excels in the art of manipulation and maneuvering. Much of the campus indiscipline can be stamped out if the head of the college is a person of impeccable integrity and capable of taking bold actions. Growth and development of a college depends on the personality of its head. To manage a college effectively, the Principal must know the art of applying certain principles and techniques of management effectively. It is more an attitude of mind.

The head of a college i.e the Principal, must know the art of delegation. Delegation is the art of managing. The success of any administrative leader depends upon his effective application of the principles of delegation. According to Harold Knootz and Heinz Weihrich, there are five principles of delegation, which they call 'the art of delegation,' namely (i) Receptiveness, (ii) Willingness to let go, (iii) Willingness to let others make mistakes, (iv) Willingness to trust subordinates, and (v) Willingness to establish and use broad controls[1].

What teachers need is freedom of action, encouragement and support. The principal must learn to delegate authority and share responsibility with his teachers. Authority makes people responsible. Delegation implies trust — trust in the teachers and belief in their innate ability. It means vesting of authority, the more you delegate, the more your people deliver in terms of innovations and creativity, their growth and development and in their personal pride and job satisfaction. It is "the discovery that your people are 100 per cent more capable than you'd ever realised."[2] People are reluctant to delegate authority partly because they distrust their subordinates and partly because they are incompetent and are afraid of their subordinates emerging more successful than themselves. By concentrating all authority in his hands, the principal can stifle not only the growth of his teachers but also of his institution. Teachers need academic freedom not only to innovate teaching techniques but also to organise and conduct various curricular and co-curricular activities for the students. These activities contribute to an all round development of students' personality, giving a sense of accomplishment both to students and teachers.

However, delegation does not mean surrendering accountability. Responsibility is not the same as accountability, as amply demonstrated by S.B. Mathur in his wonderful book, *The A to Z of Managerial Excellence*[3]. What is delegated is authority and not responsibility. Teachers are accountable to the Principal for their lapses. Delegation confers discretionary power on the delegatee — the right to use one's own judgment and act independent of the boss. But the Principal cannot abdicate his responsibility. He is accountable to the students, the college management, the university and the like for the acts of omission and commission of his teachers. While assigning tasks and duties and delegating authority, proper care should be taken to assess the suitability and competence of the delegatees i.e. selecting the right persons for the right job. Too much interference nagates the very purpose of delegation and hampers the initiative of the delegatees. But the persons delegating the authority must develop an effective system of supervision and control to ensure that authority delegated is not abused or misused.

The Principal cannot run the college alone by himself without the support and cooperation of his teachers. He must therefore learn to motivate people. Motivation means creating conditions in which people are willing to work with interest and enthusiasm with a high personal and group morale and loyalty to the institution. It is an art of getting work done voluntarily without coercion or exercising authority. According to Elton Mayo, — the chief exponent of the human relations theory, recognition, appreciation and informal pattern of relations motivate people to work. Appreciation of the good work done i.e. an honest praise

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devoid of flattery, is the greatest incentive. It enriches individual's potential and strengthens his commitment to work. Likewise, a healthy work environment stimulates people.

The principle of 'carrot and the stick' is also a motivating factor, sometimes. It is important to make a distinction between a performer and a non-performer and accordingly praise and reprimand, or else there is no incentive to perform. But it is equally important to give just and fair treatment to all and avoid showing favours or promoting a coterie around. While being firm, it is necessary to remain impersonal and nonpartisan in treating people. Any administrative leader who is partial in his treatment cannot command respect and will lose credibility and the capacity to administer effectively.

Participation is a means of recognition. Teachers should be made to involve themselves in college affairs. Their participation in decision making on matters relating to discipline and administration is important. This will create a sense of affiliation and acceptance. No institution can progress and develop if people feel alienated and do not share a sense of belonging. All important and major decisions relating to admissions, examinations, discipline and the like should be made after consulting teachers—at least the seniors or the heads of the departments—reflecting the collective wisdom. For instance, on matters like detention of students on account of poor attendance, it is necessary to consult teachers before deciding the issue. Such consultation strengthens the position of the Principal in enforcing the decision effectively. Moreover, the teachers will stand by the college decision to detain the students since they were a party to the decision.

It is a general belief that people are lazy and dislike work and need only money and security. This is not fully true. Under proper conditions people take delight in working. People are happy when they engage in some meaningful work. For instance, when a teacher finds that his lecture holds the class spell bound, he feels satisfied and strives hard to live upto his reputation. As Aristotle said, "Man is truly happy only when he is fully absorbed in his work."[4] People do not work because they are demoralised due to lack of healthy work environment, team spirit i.e. feeling of fraternity, incompetence and partisan approach of the persons in positions of power and authority.

Even the absenteeism and rowdyism among students is more due to incompetent college administration. Absenteeism among students can be reduced to a minimum provided the college administration decides to enforce strictly the attendance requirement. Students do not sit in the classrooms because attendance is not made compulsory and also because the teachers do not take the teaching seriously. However, if the college can convey the message earnestly, and mean it that unless students give satisfactory attendance they will not be allowed to take the examination, they will realise the importance of attending lectures. When the attendance is enforced strictly, it will also reduce students' dependence on coaching classes. Similarly, if teachers can be made to deliver lectures that have substance, students will also realise the importance of not missing the lectures.

One of the complaints of colleges is that they are unable to enforce academic norms, such as attendance requirements, etc because they are subjected to a lot of external pressure. This is more of a convenient excuse for inaction. It is true that the college administration comes under pressure from different quarters. The Principal often receives threats from hired hoodlums. But such pressures and threats are common to all positions of power and authority. It is for the college to provide inbuilt mechanism to withstand such pressures and threats. Once people realise that the college administration, particularly the Principal, is firm in enforcing academic discipline and in taking punitive action against students for indiscipline and misconduct, without buckling under any pressure, they give up the pressure tactics. People appreciate the ability to take bold decisions and enforce them without fear. But the college must ensure that all its decisions and actions are absolutely reasonable and free from any partisan consideration. In other words, the academic norms of the college must be seen to be impersonal and applied uniformly without discrimination to one and all. If the college can do this, it will succeed in preventing politics and external pressures influencing its administrative decisions and actions. On the other hand, if the college succumbs under pressure, it will become more vulnerable and incapable of any effective functioning.

Similarly, the quality of teaching can be improved by making teachers more responsible and responsive to students. Evaluation of teachers by students, taken in right spirit, can lead to a healthy teacher student relationship. Humility is one of the greatest virtues. Teachers must accept with humility the views and opinions of their students about their classroom instructions and their behaviour in general vis-a-vis students. After all, teachers are meant for students. Teachers' subject knowledge cannot be infallible, nor their techniques of teaching beyond any improvement. Evaluation of teachers by students helps the former to know their strong and weak points. It is a good feedback mechanism. As Radhakrishnan said, a teacher is a student throughout his life. There is atleast some scope for improving communication skills and for updating the subject matter. Teachers must change the attitude of self righteousness and stop practising self-deception if they have to be successful. Teaching is the only profession where one gets instant job satisfaction and reward. Teachers should learn to like their students and not hate them. A teacher who is hostile towards his students cannot make a good teacher. A good teacher, according to Bertrand Russell, is an affectionate teacher who has faith in himself and faith in his students. But most of the teachers think that students are incapable of evaluating them. Nothing can be farther from the truth. Students are the best judge of their teachers. They are intelligent enough to make out who is a sincere and competent teacher and who is not. That the teachers are not interested to know what their students think of them is indeed an alarming development. Students are afraid to complain against their teachers for fear of vindictive action. They dare not complain to the Principal because there is no guarantee that he will take impartial action without causing any harm to the complainants. The students need to be assured that so long as they have any genuine grievances against teachers they should not be afraid of complaining and that proper action will be taken against the teachers without inviting any trouble to the complainants. It is ironical that in the institutions of higher learning there is no freedom of expression. And unless this situation changes no reform in higher education is possible. It is the duty of the Principal to create openness and transparency in the functioning of his teachers and the college.

A complaint and suggestion box can also serve a very important purpose of ensuring transparency. It can provide a good feedback from the students. It will help the college to know the students' views about its administration, teachers, academic atmosphere in the campus and the students general grievances. Students should be encouraged to make anonymous complaints and suggestions because some students are, by nature, diffident, while others are either afraid or do not like to be identified. What is important for the college is genuineness of complaints and suggestions and not the identity of the complainants. And every complaint or suggestion received should be attended to and a prompt follow up action taken. This can earn the college a good image and help to win the students' trust in the college administration.

One of the important functions of a Principal, as the administrative head of the college, is coordination. Coordination is a dual task of removing conflicts, and of securing active consent and cooperation from the teachers for managing the college effectively. Sometimes there are inter-departmental conflicts, clash of interests, groupism and rivalry among the teachers which operate at cross purposes and unless these conflicts are resolved they will jeopardise the interests of the institution.

In management, conflict is defined as a difference of opinion. And differences of opinion are natural in any institution. Cooperation of the subordinates depends on the superior's ability to resolve conflicts. The best method of resolving a conflict is confrontation. Any attempt to evade or compromise will not help. What is required is open mind and willingness to face the reality — willingness to discuss and get at the root of the conflict. And in the face of evidence and facts the differences of opinion are integrated. Mary Parker Follet calls this an integration of conflict. This way every conflict can become a constructive conflict. The Principal, as the chief coordinator, should have an open mind to welcome the differences of opinion from his teachers and turn the differences into constructive opinions. Coordination, thus, is an important but most difficult function of the head of an institution.

The Principal must ensure that everyone in his college is working as expected without encroaching on others' territory. He must create a team spirit among teachers. He should be willing to help and guide the teachers and reprimand them when needed without intimidating, criticising and harping on their shortcomings. While every teacher is autonomous and independent so far as his classroom instructions and activities are concerned, he must be made to realise that his activities are an integral part of the other activities of the college. All activities are interdependent and contribute collectively to the image building of the college. The Principal must be able to transform his ideals, enthusiasm, zeal and convictions into actions and inspire people working under him.

Managing a college is both a daunting and challenging task, particularly in the face of students' indiscipline, non-cooperative attitude of teachers and their organised unionism and mounting pressure from outside. It is an all pervading adversity. But with vision, wisdom and decisive actions, a Principal can turn the adversity into a never ending opportunity to make his college a model institution. Managing a college effectively is indeed an art.

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IGNOU and Undergraduate Science Educatio in North-East India

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Introduction

Almost three decades ago, the University Grants Commission (UGC) recommended the restructuring of the undergraduate (UG) courses so that these would be related to our socio-economic conditions. However, till now, even the leading conventional universities in the country have not responded satisfactorily to the challenge of designing UG curricula which provide for the optimal development of the students' potential vis-a-vis the country's needs. As a result, the UG curricula, particularly for science, remain one of the most important areas of concern in higher education today. In the present paper an attempt has been made to evolve strategies to impart quality science education to the large and heterogeneous mass of students through the distance mode, with special reference to the conditions in the North-Eastern region of the country.

Science in the Educational Policies

The concern for the development and reorientation of the curriculum for science education in the universities has been expressed in many policy documents, including the Education (Kothari) Commission (1964) report. The National Policy on Education 1986 in its modifications undertaken in 1992 states that "Science education programmes will be designed to enable the learner to acquire problem-solving and decision making skills and to discover the relationship of science with health, agriculture, industry and other aspects of daily life. Every effort will be made to extend science education to the vast numbers who have remained outside the pale of formal education" (MHRD), 1992:40).

The above policy statement underlines two important inadequacies :

i) it points to the deficiency in the existing curriculum of science education and proposes that it be redesigned so that it would focus essentially on aspects which would sharpen the conceptual clarity widen the understanding of science as an all pervading and problem solving aspect of knowledge; and

ii) it emphasises the urgency of attending to the needs of multitudes who, for one reason or the other, have failed to avail the benefit of science education till now.

It is therefore important to enhance the access and meet the design requirements with special reference to the north-eastern region.

Requirements of the NE Region

Due to the typical geography of the region and the lack of adequate transport and communication facilities, one of the first requirements for development is *the establishment of strong telecommunication network* based on the 'state of the art' technology. Such a network could be used to cut down non-essential movement across the hilly terrain. The climatic conditions of the region are such that quite a few sophisticated electronic industries requiring an unpolluted environment can and should be set up there. Such ventures have been successful in similar areas in other parts of the country. Kumaon Hills of Uttar Pradesh and the hilly areas of Kerala are relevant examples in this context. The NE region is also rich in many natural resources, the chief of these being oil. Prospecting for oil, its exploration and processing is a major economic activity of this area and it is desirable that the local populace be imparted technical training in these spheres. So far as the educational scene is concerned, it is well known that this region faces a shortage of well trained primary and secondary school teachers, especially in science subjects in spite of its crucial importance to the development of the region. With special reference to the teaching of Physics in Mizoram, Barkakati (1990) observed two important groups of problems because of which the north-east had been unable to keep pace with the developments of educational programmes in other parts of the country. The first group is concerned with the students, and the other is related to the teachers.

In case of students, the problems are :

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i) lack of proper exposure to the background of physics;
ii) inadequate knowledge of the language of mathematics;
iii) inadequacy in conceptual development;
iv) the prospects for the study of physics not being attractive; and
v) non-availability of local expertise in the medium of instruction.

The problems of teachers include the following:

i) intake of unprepared average students at the UG level;
ii) inadequate number of trained teaching staff; and
ii) limited laboratory facilities.

These observations apply, *mutatis mutandis,* to the teaching of every science subject.

Distance Education Programmes in Undergraduate Science

Formal correspondence education at the undergraduate level was introduced in the University of Delhi in 1962 and for the first time a correspondence course in science for the bachelor's degree was introduced in 1971 (Kumar and Garg, 1992). Printed lessons in the style of 'lecture notes' were supplied to the students. Practical experience was provided during the weekends in the science laboratories of some selected colleges. In addition to these, contact classes were also held in the evenings. Most of the students of this B.Sc. programme were already employed; for obvious reasons, they were more motivated than the regular day time students. Even though this course received a tremendously favourable response, it was abandoned in less than three years essentially because of lack of financial support.

At present, seven institutes of higher learning, i.e. Directorates of Correspondence Courses of conventional universities and open universities are offering undergraduate degrees in science programmes. These are : Andhra University, Annamalai University, Madras University, Madurai Kamaraj University, Bharathiar University, Dr. B R Ambedkar Open University, and Indira Gandhi National Open University. In 1989-90, 11,189 students were pursuing the B.Sc. programme in distance mode in India, which was only 2.5 per cent of the total enrolment in higher education by distance mode in the country (Satyanarayana, 1993).

The challenges posed by the B.Sc. programmes in the distance mode arise from :

i) having to cater to the academic needs of an increasing number of heterogeneous groups of science students; and
ii) maintenance of quality in science education through a new and hitherto unexplored non-conventional mode.

The IGNOU

The establishment of the Indira Gandhi National Open University (IGNOU) in 1985 provided an opportunity to reform the UG curricula in vogue in the conventional universities. Indeed, IGNOU took lead in designing the UG curriculum along the lines recommended by the UGC. It may be noted here that upto the end of the Seventh Five Year Plan, only nine universities and 290 colleges in the country were implementing the restructured undergraduate courses as per the revised guidelines of the UGC (Govt. of India, 1992). It has been documented that : "The Bachelor's degree programme of Indira Gandhi National Open University has been designed on the line suggested by UGC ...." (Govt of India, 1992-93).

IGNOU introduced the UG Science Programme in January 1992. It is characterised by a three-tier course structure consisting of the foundation courses, electives and application-oriented courses: The Foundation Courses in Science and Technology (FST-1), and in Humanities and Social Sciences (FHS-1) provide a broadbase to the curriculum content encompassing the current concerns of our society in a historical perspective. These courses aim at generating socio-political awareness in the learners, sensitising them to social concerns, fostering scientific temper and developing appreciation for equitable development. Through these courses, a definite effort has been made to provide a perspective in which these concerns should be viewed. In addition, the foundation courses in English and Hindi aim at developing the linguistic competence required for undertaking the subsequent elective courses.

The elective courses cater to the core areas of study in a discipline. The knowledge gained through these is further sharpened by the application-oriented courses like Human Environment, Writing for Radio and Feature Writing, Food and Nutrition, etc. These courses provide inter-disciplinary perspectives and help in *developing vocational skills* that would prepare the learners to undertake public/private/self-employment.

Keeping in view this structure of the B.Sc. programme, we intend to discuss how it can and should be trailored to the needs of our potential students in the north-eastern region. We first briefly outline the existing B.Sc. programme offered in the Distance Education (DE) mode.

The Existing B.Sc. DE Programme

To qualify for the award of a Bachelor's degree, a student has to earn a total of 96 credits (where one credit is equivalent to 30 student study hours). Of these credits, a student must complete 24 credits of Foundation Courses, 56-64 credits of Elective Courses and 8-16 credits of Application-oriented Courses. The programme comprises multi-media packages besides the printed blocks that dominate the course materials. Audio and video programmes are an integral part of the multi-media package, and these programmes supplement the self-instructional print materials. In particular, the video and television programmes are used to illustrate concepts and phenomena which are difficult to present in the face-to-face teaching or be comprehended in print. For instance, video facility has been used to illustrate the concepts about the universe, health care, modelling by differential equation, etc. Furthermore, to meet the belief that for understanding scientific concepts face-to-face contact is a must, IGNOU has introduced academic-counselling sessions and summer schools. These also provide our learners an opportunity to participate in the academic life of the University.

The Bachelor's Degree Programme (BDP) has been made equivalent to the 3-year UG programme of the conventional on-campus universities. In the design of the courses, one overriding concern has been to ensure that distance learners must not gain less knowledge as compared to the full-time on-campus students. A detailed list of the science electives offered at IGNOU is given in Table 1. There is no denying the fact that while drawing up an innovative undergraduate curriculum, the programme designers have been influenced by the existing undergraduate programmes in the conventional universities to ensure recognition of their degree by the conventional universities as well as the prospective employers.

Table 1 : The Science Elective Courses offered by IGNOU with Corresponding Credits

	Physics	*Chemistry*	*Life Sciences*	*Mathematics*
1st Level	Elementary Mechanics(2)	Atoms & Molecules(2)	Cell Biology (4)	Calculus(4)
	Oscillations and Waves(2)	Inorganic Chemistry(4)	Ecology(4)	Linear Algebra(4)
	Physics Laboratory-I(4)	Chemistry Laboratory-I(2)		Mathematical Methods(4)
				Elementary Algebra(4)
2nd Level	Methods of Mathematical Physics-I(2)	Physical Chemistry(4)	Genetics(4)	Differential Equations(4)
	Methods of Mathematical Physics-II(2)	Organic Chemistry(4)	Taxonomy and Evaluation(4)	Real Analysis(4)
	Thermodynamics and Statistical Mechanics(4)	Organic Reaction Mechanisms(4)	Physiology(4)	Abstract Algebra(4)
	Electric and Magnetic Phenomena(4)	Chemistry Laboratory-II(2)	Laboratory Course-I(4)	Advanced Calculus(4)
	Physics Laboratory-II(4)	Chemistry Laboratory-III(2)		
3rd Level	Optics (Physical and Lasers)(4)	Introductory Biochemistry(4)	Developmental Biology(4)	Numerical Analysis(4)
	Electric Circuits and Electronics(4)	Sepectroscopy(4)	Laboratory Course-II(4)	Analytical Geometry(4)
	Modern Physics(4)	Chemistry Laboratory-IV(4)	Mathematical Methods(4)	Probability and Statistics(4)
	Physics Laboratory-III(4)	Chemistry Laboratory-V(4)	Biochemistry(4)	Linear Programming(4)
		Application Oriented Courses		
	Computer Programming and Applications(8)	Environmental Chemistry(8)	Human Environment(8)	Teaching of Mathematics(8)

* At present, only Human Environment is on offer.

Multi-media package

The university designs multi-media teaching-learning packages, specially meant for the targeted learners. The package for UG science includes the self-instructional print materials, audio and video programmes, television broadcasts, science laboratories for practicals, assignments (both TMA and CMA), and face-to-face academic-counselling at the study centres. While the printed course units, assignments and practicals are compulsory, others are optional and supplement what has been offered through the print media. Through the rigorous procedures of design and development of the course materials, viz. programme, course and unit design with the help of the experts in the field; rigorous content, format and language editing; and the special care taken by the in-house faculty in the design, editing and coordination of the course(s) and block(s) and the intra-faculty collaboration, the university ensures materials of high quality. IGNOU courses are available in English and Hindi, and efforts are on to produce these courses in other regional languages in due course of time. IGNOU attempts to make the best teachers of the country available to all the students. Student assignments form the backbone of distance teaching-learning; therefore not only the tutor-marked assignments (TMAs) and computer-marked assignments (CMAs) carry a weightage of 30 per cent scores (as continuous evaluation, added to the 70 per cent summative evaluation through the term-end exam), but also a rigorous procedure of margin and global comments on each of the assignment-responses helps the isolated learners studying at a distance.

Science Student Profile : NE

It would be worthwhile to look into the student profile of the north east region from the year 1991 to 1994 (Table 2). These data give us some idea about the changing patterns over this period of time.

Table 2 : Student Profile of UG Science in the North-East (1991 to 1994)

Characteristics	1991	1992	1993	1994
1. *Gender:*				
Male	48	42	29	27
Female	5	7	1	10
2. *Caste:*				
SC	1	3	0	1
ST	8	7	6	8
GEN	44	39	24	28
3. *Residence:*				
Rural	14	10	9	9
Urban	37	33	17	22
Tribal	2	5	4	6
4. *Employment Status:*				
Employed	28	24	15	17
Unemployed	25	25	15	20
5. *Marital Status:*				
Married	14	11	7	27
Unmarried	39	38	23	10
Total Enrolment	53	49	30	37

This data on student enrolment trends reveals that in its present form our B.Sc. programme has not been well received. Among other factors, it is likely that lack of adequate publicity has contributed the most to this decline. Nevertheless, it is heartening to note an increase in the enrolment of women and tribal students. This provides us an opportunity for introspection before deciding on future directions.

Suggested Measures

Keeping in view the socio-economic and educational needs of the north-east, a few measures are suggested to provide a basis for further exploration.

i) Since the students are geographically scattered, mobile study centres-cum-libraries is among the viable alternatives that may be given a trial soon to foster scientific temper in the north-east. A complementary strategy involving extensive use of the regional radio and television network for extending audio and video facilities, in conjunction with video lectures, also needs to be thought of. Linked to this is the facility for local cable network and teleconferencing. The recent Modasa experiment carried out by IGNOU in the State of Gujarat has proved effective for education through cable network at the local level. Now teleconferencing strategy has been implemented by IGNOU to reach the students in the north-east. It is proving quite effective, we are confident of its success as IGNOU has been provided an independent channel by the ISRO, Government of India.

ii) Training science teachers through the distance mode is a viable proposition. This acquires significance in view of the dual requirements of the demand for science teachers as well as higher education in science. With this in mind, the B.Sc. programme of IGNOU should be turned towards science teaching in schools in the north-eastern region. Indeed, some courses in this direction are already planned.

iii) A recent study of Garg, Vijayshri and Panda (1992) revealed that student workload plays an important role in student learning, especially in the Physics elective courses of the B.Sc. programme of IGNOU. The authors observed that : "while on the one hand the *IGNOU* course materials have been appreciated as better than what is available in the market, they are too exhaustive and dense for the average student" (*1992:93*). This finding has particular significance for our students in the north-east because of their specific requirements. The lack of local expertise and resources, coupled with a difficult geographical terrain which limits access to the facilities provided by IGNOU, are the major constraints. Therefore, it may be worthwhile to commission a special study to look into the learning patterns and requirements of science students in this region before making any adaptations in the curriculum.

iv) The science curriculum has to be linked with the local and community employment needs as well as resources. This would not only motivate the students to sustain and successfully complete the programme, but also make the training relevant to the local needs of the science educational institutions. With this in view such courses/programmes be offered which provide training in Telecommunications, Resource Exploration, Pharmaceuticals, Environmental Chemistry, Computer Programming and Applications, etc. So far as the teacher training in science education is concerned, the IGNOU plans to offer courses which will also suit the requirements of north-east, either as a part of the B.Sc. programme or as a separate Certificate or Diploma programme. The present curriculum is also useful to those students who want to opt for a career in government services, R&D organisations, educational institutions, etc. In addition, IGNOU has an arrangement with other State Open Universities to adopt/adapt their diploma and degree programmes. The Diploma in Applied Electronics being offered by the Yashwantrao Chavan Mahrashtra Open University is being considered by the faculty. Looking into specialized needs of different regions, we propose additional application-oriented courses like Horticulture, Tissue Culture, Radio and T.V. Repair, and Analysis of Soil and Water with emphasis on Pollution Control as a part of IGNOU B.Sc. programme which would provide the required training for services in telecommunications network as well as industries, and can further harness natural resources in the region, without affecting its flora and fauna.

Conclusion

We have made a few suggestions in the light of our perception of the specific developmental needs and aspirations of the people of the north-east. Careful planning is needed to carry them out. Another aspect which needs careful attention is the "production and delivery" of those programmes/courses. While the production of courses could be a centralised activity involving the pooling of talents available nationwide, their delivery should essentially be a local responsibility. The existing infrastructure of IGNOU can be efficiently utilised for delivering these need-based programmes, and it would be eminently desirable to strengthen the regional centre(s) in the north-east, and tap the local resources available from the existing educational institutions, the industrial concerns, the state governments and other related agencies.

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TO OUR READERS

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

NATIONAL EDUCATION TEST
A Close Look

Ambarao T. Uplaonkar*

The University Grants Commission (UGC) has concerned itself with the development, progress and improvement of the quality of higher education in India. A number of policy recommendations have been made to streamline higher education to make it more relevant to the needs of the country. In order to check the falling standards of higher education and recruitment of academically poor and uncommitted teachers, the UGC introduced National Education Test (NET) in 1993 as part of the new scales of pay for college teachers.

The adoption and implementation of the NET by the Government of Karnataka in 1993, as a qualifying test for recruitment of lecturers (physical directors and librarians) has given rise to many controversies and problems. Therefore it is necessary to examine the implications of the NET to the teaching community in particular and the system of higher education in general. This article proposes to examine the implications of the NET to the problems of part-time teachers and the teaching profession and to the constitutional goal of providing equality of opportunity.

NET was introduced by the UGC broadly with the objective of raising the standard and quality of higher education which has been deteriorating over the years due to an unplanned multiplication of colleges and universities.

Recruitment of College Teachers

Teachers occupy a central place in the system of education. They play a pivotal role in preparing the future citizens of a country and giving directions and goals to the society. Obviously, the quality of teachers should be considered a crucial factor in education.

It may be recalled that the education system in India in terms of goals, procedures of examination and recruitment of teachers continues to be the legacy of British rule.

Recruitment of teachers in colleges and universities is being done on the basis of the candidate's record or performance in the annual examination. However, in the last two decades the scenario of higher education has undergone a sea change. A student's performance in the annual examination as an indicator of his abilities and calibre is being increasingly questioned today. Ranks and first classes are obtained through copying, bribery, cheating, influence, intimidation and other forms of malpractice. Consequently, more and more teachers with high percentages but with poor calibre are being recruited to the profession of teaching. In order to check the recruitment of substandard teachers in colleges, the UGC has proposed NET as a qualifying test.

Problems of Part-Time Teachers

Of late, part-time teachers have become a permanent feature of schools and colleges. For want of recruitment of regular staff by the government due to financial constraints, many vacancies for teaching posts remain unfilled for years. As a temporary measure, college authorities appoint teachers on part-time basis for a year. But the appointment is renewed every year till regular appointments are made.

NET was introduced in Karnataka in 1993, as a qualifying test for all those interested in joining the teaching service. However, the introduction of NET has had adverse effects on the prospects and services of 2500 part-time teachers working in the state. In the petition submitted by the Part-Time Lecturers Association to the Government, it is contended that they have been in service before the NET was introduced in the State and have urged that they be exempted from the test and their services regularised according to the length of service.

In response to the petition made by the Part-Time Lecturers Association, the Government of Karnataka has constituted a committee to examine the problem and submit a report. The demand of the part-time teachers is genuine, but the problem is complicated. It would be difficult for the Government to resolve the issue by exempting them from the NET. Therefore, the Government has to evolve a via media.

Contents of the NET

The NET consists of three parts :

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1. The first paper deals with General English and General Knowledge.
2. The second paper is designed to test the candidate's basic knowledge of the subject of specialisation; and
3. The third paper deals with an advanced level of the subject.

Let us deal with each paper.

Paper I

General English

The General English paper is supposed to test basic knowledge of grammar such as parts of speech, functional labels like subjects, object, predicate, use of articles, the correct tenses, voice-change, direct and indirect speech, etc. Perhaps the implicit idea is that knowledge of English will help in exchanging views through correspondence and interpersonal interaction with teachers of other states and enable the person to know literature published in English.

However, with the shift in the language policy, the state governments have switched over to regional languages, making the learning of English as optional subject. To be specific a student at PUC I year may or may not opt for English. It is important to mention, that there are a large number of pre-university colleges where English as a subject is not offered at all. Even those students who opt for English in some colleges have miserably failed in it.

In the last two decades the importance of English has been waning, as regional languages are being used, as a matter of policy, as a medium in education and administration. With the increased use of the regional languages in colleges and universities, the standard of English has reached its lowest ebb. Unfortunately, there is also a widespread anti-English wave in every state. So much so that the use of English words even in personal interaction has become a taboo. In view of the prevailing situation where a postgraduate (or a majority of them) knows nothing or very little of English, how sensible and wise is it to test his knowledge of English?

It may be argued that the level of General English tested in the NET is of SSLC standard. True. But after SSLC a majority of students do not learn English at all. Then, how can the candidates answer questions of General English after a gap of seven years?

General Knowledge

The General Knowledge paper obviously tries to test the candidate's knowledge of current events pertaining to India and the world. Interestingly, elementary questions on almost all subjects ranging over social, economic, political, historical, mathematical, geographical, statistical, sciences, etc are included. The underlying assumption is that a candidate intending to become a college teacher is supposed to know about the social, economic and political developments in the country and the world.

There cannot be two opinions whether one should have the minimum knowledge of current events in modern society. But the question is what does the general knowledge test? Does it really test a candidate's knowledge of current events? Does it test his intelligence or ability to comprehend? Is the test related in any way to the profession of teaching? Test of general knowledge does not reveal one's knowledge of current events nor does it reveal one's knowledge or ability to comprehend. Modern society is becoming so complex, diverse, and dynamic that it is practically impossible for one to know and remember about most events of the world. Fairing well in the General Knowledge test is a matter of fluke rather than intelligence or study.

A section of this paper deals with questions which require a good knowledge of subjects such as Physics, Chemistry, Mathematics, Statistics, Geography, Arithmetic. These can be answered much better by science than arts and humanities students. In short, the general knowledge paper does not test one's knowledge of current events or intelligence and is not related in any way to the profession of teaching.

Paper II

Paper II deals with the subject in which the candidate claims specialisation. But its main concern is to test the candidate's basic knowledge of concepts, theories, thinkers, etc. This paper consists of 50 multiple choice questions. Each question has four alternative answers and the candidates are required to tick one of the alternatives. The paper is highly confusing. For example, the fact that candidates have to answer 50 questions choosing one out of the four given answers in a short time does not give any scope for consistent thinking. The whole process is a rushed marking of answers whether one knows them to be correct or not. The paper only tests one's knowledge of the subject at a superficial level.

Paper III

Paper III contains two parts viz. A and B. Part B contains 3 electives out of which the candidates have to answer one. But the main disadvantage of the paper is that candidates have to write short essay type answers to 10 out of 15 questions from each part in a limited time and in the short space provided in the booklet. But it is just impossible to write reasonably good answers to 10 questions in the short space provided in the booklet. Look at a question in Sociology in Paper-III of part A: "Examine the relationship between theory and hypothesis". A good answer to this question would at least require two paragraphs of 5-10 lines each. But there is no space in the booklet for ten questions at the rate of 5 lines each. The space provided in the booklet is just enough for writing one sentence answers. Such answers do not measure the candidate's knowledge of the subject in depth.

Method of Testing

NET relies heavily on two types of questions viz., the multiple choice question with negative grading and (2) the short answer question to be answered in the booklet itself.

Basically, these two types of questions tend to create tensions, fears and apprehensions in the minds of candidates. For example, under the multiple choice system, with negative grading of marks, the candidates tend to attempt only those questions about which they are very certain. Obviously, many candidates do not attempt those questions about which they are not cent per cent certain. As a result many questions remain untouched due to fear of negative grading. The multiple choice method does not provide opportunity to express one's inner abilities.

The short and essay type answer method with time and space restrictions does not test the candidate's depth of knowledge. In short, the whole exercise merely tests superficial information of the candidate and is in no way concerned with the profession of teaching.

Pro-Elite

Finally, a basic question needs to be asked about the implications of the NET for the cherished goal of providing equality of opportunity to the poorer classes, the SCs and STs. Although the aim of the NET is to improve the quality of higher education by selecting able teachers, it is important to inquire whether it operates only in favour of the upper classes and castes.

1) *General English* : The Test in General English forms an important but compulsory paper of the NET. But a person's standard of language is intimately connected with his class status. Bernstein has shown that members of the upper classes possess more formal language which involves grammar, idioms and phrases. Formal language presupposes knowledge of internal and logical consistency between ideas. Obviously, the upper class candidates are likely to answer questions much better and quickly too. Upper class people also speak and write more languages. It is needless to say that upper class members send their children to convents and public schools where a greater stress is laid on perfecting one's language and learning more languages. On the other hand, members of the lower classes send their children to Government schools which pay little attention to the development of linguistic skills. In other words, the NET is biased in favour of the elite to an extent that it disqualifies a large number of non-English candidates who are generally drawn from the poorer classes, the SCs and STs and rural areas.

2) *General Knowledge* : Like General English, General Knowledge is another compulsory paper in the NET. As pointed out earlier, the General Knowledge paper tests one's knowledge of current events of the country and the world. But one's level of general knowledge is

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D. C. Wadhwa
Director

related to one's class status. One's general knowledge depends upon one's access to mass media-newspaper, T.V., and the Radio—which in turn is related to one's class status. It is obvious that upper class students, who have a greater access to mass media, fare well in the General Knowledge paper. Papers II and III, like Paper-I, are also designed in favour of the upper classes and the urban-based.

Other Defects of the NET

A major defect of the NET is that it is held after postgraduation. It means it is only the upper class students, who remain in the race for a long time, that would appear for NET. Candidates from poorer section will opt out of the NET and take up any job that comes their way. In other words, it is only the upper class candidates who are going to take up the profession of teaching in future, if the NET continues as a qualifying test.

Another defect of the NET is that the eligibility conferred by the test is valid only for three years. That means, candidates have to keep on passing the NET after every three years if they want to take up the teaching service. But this is possible again more for the upper than the lower classes.

Conclusion

The effects of the NET on part-time teachers have been analysed and found them to be negative. It is also found to favour an elitist group so far the recruitment of candidates, in the context of democratic goals, is concerned. The analysis has shown that the NET does not facilitate the recruitment of able teachers. The whole mechanism tends to produce tensions, disappointments and frustrations. It merely tests the knowledge of the candidates at a superficial level.

It is unfortunate that the NET goes against the principle of promoting equality of opportunity for the poorer and the downtrodden sections. It may be suggested that instead of holding a test like the NET after two years of postgraduation, a two-year course, like M.Ed., keeping in view the goals of higher education, aptitude of the individual, training in teaching methods and research may be designed for those desirous of joining the teaching profession. It appears that the NET has been introduced in the states not because it facilitates the selection and choice of outstanding teachers but because the UGC has made it obligatory as part of the new scales of pay for college teachers. We seem to do the right things, (or profess to do) for the wrong reasons.

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5. RVS College of Physiotherapy, Sulur - 641 402. (aff. to Dr. MGR Medical Univ., Madras)	B.P.T.	Entrance Exam. & Interview
6. RVS College of Nursing Sulur-641 402 (aff. to Dr. MGR Medical Univ., Madras)	B.Sc. Nursing Dip. in Nursing	- do -
7. RVS College of Pharmacy, Sulur-641 402 (aff. to Dr. MGR Medical Univ., Madras)	B.Pharm D.Pharm	- do -
8. Bhakthavatsalam Memorial Women's College, Korattur, Madras-600 080. (aff. to Madras Univ., Madras)	B.Sc., Comp. Science, Electronics, Catering Science & Hotel Mgt. Biochemistry, Microbiology B.B.A. & B.Com.	Interview

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From Idealism to Survival

Dr A.K. Mukherjee, Director General of Health Services, Government of India, New Delhi delivered the Convocation Address at the fifth convocation of The Tamil Nadu Dr. M.G.R. Medical University, Madras. He said, "The idea of development has, during the last three decades, moved from idealism, through necessity, to strategies for survival. We became more aware that mankind faced major constraints: on population, on the availability of food and energy, and on the tolerance of the environment to human intervention. While we have retained belief in continuous growth, reaching it poses a greater challenge. Today, we seem to know more about the sustainability of problems than that of their solutions, but we are freer of dogma, freer to choose pragmatic strategies, freer to be selective." Excerpts

Tamil Nadu has always been in the vanguard of the progress in industrial and social development sectors. Attaining a high literacy rate of 62.7% is a no small achievement. This is the State that has given the world the unique Siddha system of medicine, propounded by the great sages, and developed it to a high level of excellence. Progressive measures implemented in the state, under the dynamic leadership of the Hon'ble Chief Minister Dr. J.Jayalalitha, have effected a reduction in the Infant Mortality Rate to 56 per 1,000 live-births against the national target of 60 by the year 2000 AD. With a Birth rate of 19.2 per 1000 population and a death rate of 8, the state has shown the direction for others to follow. Tamil Nadu is to be complemented for implementing a pioneering programme for protection of the Girl Child. The innovative Chief Minister's Nutritious Noon Meal Scheme has also won global accolades.

We are on the threshold of a new millennium. At this juncture, the words of the great poet Subramaniya Bharathi who had given a clarion call for creation of a new world order echo in our minds- PUDHIADOR ULAGAM SEIVOM. (*We have to blend today's reality with tomorrow's dreams.*) The current century bears witness to the most intensive and extensive health changes ever achieved in history. Advances in our knowledge of the causes and effects of diseases, progress in sanitation and nutrition, development of vaccines and drugs, and expansion of a vast network of facilities and personnel are but a few of the shifts that have radically transformed the health scenario in our country. New vistas have opened up for better patient and community care; improved health care systems hold forth promise of greater equity.

The World Development Report of 1993 had placed the Burden of Disease in India at 344 Disability Adjusted Life Years per 1000 population, which is thrice that of Established Market Economies whose index is 117. We, in India, are going all out in an endeavour to tackle this burden of premature mortality and disability on a war footing within our limited resources.

India's population has more than doubled from 361.1 mil 1951 to 846.3 million in 199 2.4% of the world's land area supports more than 16% of the global population. Our population is increasing by about 17 million every year; this growth has gathered momentum in the last few decades. India is currently in the third stage of demographic transition, with the crude Birth Rate having declined from 41.7 in 1951-61 to 29, and the death rate from 22.8 to 10. Projections Beyond 2000 show that *the population may cross the One Billion mark by 2001; and would be about 1082 million in 2006.* I call upon all social workers to promote adoption of the small family norm.

Foremost among the challenges for health professionals today is the health transition : there is a perceptible shift from the diseases of deficiency and infection towards *non-communicable diseases* and conditions, like cardiovascular diseases, cancer, diabetes and other diseases akin to those in developed countries. In the background, pervasive malnutrition persists and fertility remains high. Populations are aging; the average life span is now 65 years globally; in India, it is 61.1 years.

India has adopted a holistic approach to social development by convergence of services of various social services sectors. The *National Health Policy*, we adopted in 1983, had reiterated our commitment to achieve 'Health For All by 2000 A.D.' through Primary Health care approach. The countdown has already begun. A look at the likely scenario Beyond 2000 shows that the Burden of Disease would remain the same; it is only the type of disease which may differ. Our health system is being geared up to meet such an eventuality. A review of our National Health programmes is now underway to meet the quantitative and qualitative challenges like the epidemiologic transition and changes in the demographic profile.

With the launching of the World Bank assisted programmes for Leprosy Elimination and Blindness Control during the past few months, India has taken one more step towards disability prevention and rehabilitation. The National Nutrition Policy, adopted in 1993, has given directions for identifying the vulnerable groups requiring intervention for improving their nutritional status. We are on the verge of eradicating Guineaworm disease from India. Elimination of neonatal tetanus, polio and leprosy would be achieved in the coming years. New pilot projects on Oral Health, Disability Prevention, Trauma care and Rehabilitation based on the CBR approach, and prevention and control of Micronutrient Malnutrition have been approved recently and would be launched shortly.

I foresee a renaissance of Indian Systems of Medicine and Yoga in the near future. A harbinger of this is the creation recently of a separate Directorate of ISM and Homoeopathy in the Union Ministry of Health and Family Welfare as one of 6 departments for poverty alleviation. I recall vividly the words of Smt Indira Gandhi, "Indian medicine, indeed Indian philosophy as a whole, has always recognised the vital and inalienable connection between the mind and the body, and hence the importance of mental attitude on physical well-being and that of bodily sickness on the mind. The concept of *maya* or illusion is the same on a vaster scale embracing all experience. Our medical scientists should investigate the penumbra region of the relationship between the mind and the body. Yoga, as evolved in our country, has acquired many insights into the impact of the will and the mind on bodily chemical functions. I find that the Western Universities have taken to research in this field in a big way. We, the home of Yoga, cannot afford to neglect this work."

Worldwide, there has been a broad consensus against undue concentration of public investments on tertiary services and subsidising of high tech facilities, and equipment for private markets. India's efforts at redressing this imbalance find reflection in its *New Economic Policy*. The ongoing approach of liberalisation encourages the private sector more and more to function as equal partners with the government and to provide tertiary care services (and secondary care to some extent) involving high tech sophisticated equipments requiring high investment so that the government could focus its efforts on strengthening the primary health care services along with referral facilities in district hospitals.

The results are there before us — more and more people are today enjoying the benefits of good health than ever before. Control of fertility is modifying the structure of the population, leading to an unprecedented proportion of elderly people, who have to be provided adequate health care. The environment in many parts of our country is being seriously and permanently damaged. Increasing unplanned urbanization, industrialization, and environmental pollution have exposed us to a host of health problems, many of which are as much social as they are medical. Health and environment preservation goals must be integral to the policies and planning of development.

The idea of development has, during the last three decades, moved from idealism, through necessity, to strategies for survival. We became more aware that mankind faced major constraints : on population, on the availability of food and energy, and on the tolerance of the environment to human intervention. While we have retained belief in continuous growth, reaching it poses a greater challenge. Today, we seem to know more about the sustainability of problems than that of their solutions, but we are freer of dogma, freer to choose pragmatic strategies, freer to be selective.

The health field is today confronted with a level of complexity never witnessed before. Any unequal distribution of the benefits of progress would only compound such complexity. While the total health spending in India comes to 6 per cent of GDP, Government's expenditure on health accounts for a mere 1.5 per cent of GDP; of which the share for primary health care services is 43 per cent, i.e. about 0.65 of GDP. We are conscious of the need of enhancing this for adequately meeting public health responsibilities, especially the basic health care needs of the poor and the underprivileged.

The explosion in science and technology has been accompanied by a widening of the gap between what is achievable by current knowledge and what is actually achieved. To the extent that controlling certain diseases becomes technically feasible, their continuing existence among the underprivileged populations would, in my view, be morally unacceptable. There is a need for educational programmes for health professionals to modify their approaches for adequately responding to these challenges. Good education demands a useful march with the health care system. In order to produce the right kind and number of health professionals for the 21st century, it is necessary for us to make projections of the social and physical environment in which health care will take place and the form in which health delivery systems will evolve.

The context in which the health personnel function has been changing, in a dynamism with its own problems and complexities; with shift in patterns of demography, morbidity and mortality. The spread of HIV infection and AIDS, aptly termed a *catastrophe in slow motion*, poses a no mean challenge to the health professionals' communication skills; responsibility for long term, compassionate care; ability to face sensitive issues. Advances in biomedical technology are sometimes perceived as reducing humanism in health care. Some instances perceived as reducing *humanism in health care*. Some instances have come to our notice of health personnel being unsympathetic towards certain persons such as those with AIDS/HIV infection.

Health sciences should not divert from its traditional commitment to caring and healing towards becoming a business enterprise. Any change in the reverence of role of the health professionals as guardian of health and companion during suffering world indeed be deplorable. There had been disturbing reports about commercial dealings in human organs, especially kidneys. It was to curb the various unethical practices and to regulate the organ transplant that The Transplantation of Human Organs Act was passed by the Parliament in June, 1994 which received the Assent of the President on 8th July, 1994.

The Act came into force from 4th February, 1995 in the states of Goa, Himachal Pradesh, Maharashtra and all the Union Territories. It provides for the regulation of removal, storage and transplantation of human organs for therapeutic purposes and for the prevention of commercial dealings in human organs. Authorisation committees have also been set up and notified. State Governments of Karnataka and West Bengal have intimated us that they would be adopting this Act or have their own Act soon. I would reiterate our request to the State Government of Tamil Nadu also to approach the State Legislature for passing appropriate resolution for adopting the Act.

Over the years, we have found that although our doctor population ratio is considered satisfactory as compared to the standard of developed countries, serious shortages still exist in rural areas. There are about 4.3 lakh doctors registered under modern system of medicine, and around 5.6 lakh registered practitioners of ISM and Homoeopathy. 126 recognised medical colleges are turning out about 14,000 medical graduates annually, while 269 colleges impart training in ISM and Homoeopathy. From 498 General Nursing Schools, around 10,000 nurses are qualifying every year. The current availability of 4,49,351 registered nurses falls far short of the requirements. It has been projected that the need for nurses will grow in the next four to five years.

Availability of data on demand and utilisation of health manpower would help in making future projections towards evolving a long term perspective. Bajaj Committee (1987) had attempted such projections for certain functionaries upto intermediary level and made a forceful recommendation for vocationalisation of education for certain categories of para professionals. This university is uniquely placed to carry out a study on the current availability of manpower for education of various categories of health professionals along with their service conditions, and the future projections of requirement of such faculty. This would result in a well planned and time bound strategy for developing such quality manpower for this vital task. The Central Government would be glad to extend technical and financial support to the university in this work.

Some experts feel that in our country the education system for health professionals and the health care delivery system have each gone their separate ways. Recently, a number of initiatives have been taken to reverse this unhappy situation, to produce the right kind of doctors by giving a community orientation to medical education. July, 1993 saw the endorsement in principle by the Central Council of Health and Family Welfare of the draft of the National Education Policy in Health Sciences. The proposed Education Commission in Health Sciences would be concerned with medical and paramedical education and manpower development with a view to bringing about an integration to foster the creation of a sound health infrastructure.

Universities of Health Sciences have been envisaged as the focal points for planning and guiding the medical and para-medical education in the state. A high level Committee of experts under my chairmanship has made an in-depth study and found such universities of help in maintaining uniform standards of training and evaluation. New faculties like nutrition, health management, health economics and social and behavioural sciences could be set up, which would help in cross fertilisation of ideas. In the long term, we conceptualise an open university (like the Indira Gandhi National Open University) at the national level which will disseminate the educational material to the professionals living in farflung areas.

The Honourable Supreme Court dealt a death blow to the system of capitation fee in private professional colleges. The Indian Medical Council (Amendment) Act of 1993 has proved to be a veritable landmark legislation giving the required TEETH to the Council for maintaining high standards of professional training and curbing the mushrooming growth of colleges with sub standard facilities. Similar amendment has been enacted in case of dental education also.

For undergraduate medical education, a draft of the revised curriculum is presently under reconsideration by the Medical Council of India, and is likely to be finalised shortly. Implementing this curriculum would restructure the medical education and make it more need based and socially relevant. Similar reviews of the curricula of other health professionals is also needed.

I am glad to note, in this context the consortium of four medical colleges, now expanded to eight, has generated a data base for reorienting and redirecting medical education. The Consortium has produced a draft core curriculum, and is, now, preparing integrated teaching modulus on important topics, so that self learning, self assessment resource materials can be produced, which would specially benefit the less proficient students.

Education of health professionals should aim at developing a value system which need not only be 'known' but 'practised' in its truest spirit. As Shri Ramakrishna Paramahansa said, "Nothing can be taught, everything must be learnt". It is a sad reflection of the passage of time, that the ancient *Gurukul* approach of collective learning has been abandoned with institutions becoming centers for teaching rather than for learning, and more concerned with what they taught rather than how they taught. This university has taken right measures in developing educational technology programmes which address the 'how' of education in health sciences along with the 'what'.

There is a need for equipping the teachers with skills for developing competency based and learner- and problem-centered curricula based on priority health needs. During the eighth plan, we propose to vigorously pursue the efforts for reorientation of medical education with emphasis on Faculty Development through workshop for teachers to make them conversant with the health needs of the country, national policies and programmes, advances in educational technology and to create an appreciation of the need for redirection and retargetting of education in health sciences to make it relevant to contemporary and future needs.

Pilot studies can be conducted using such innovative approaches like Problem Based Learning and Enquiry driven strategies, which have been tried with success in institutions abroad like McMaster. We can also explore the possibilities in multiprofessional education, which aims at facilitating the development of the necessary competencies in students belonging to a wide range of health related vocations, through sharing of a common core of learning experiences during certain periods of their instructions. It is expected that this would enable them to interact together as a team and seek cost effective solutions to the health problems.

The inter related dimensions of modern health care suggest that a speciality and discipline dominated approach is no longer sufficient to meet the needs of future professionals. Rather, the traditional didactic pattern needs to be tempered by exercise that allow the students to encounter simultaneously the physical, chemical, biological, ethical, legal and economic aspects of actual clinical problems.

The curriculum as a whole requires scientific and critical thinking. New concepts essential to the promotion of health and the treatment of disease have to be incorporated, along with more effective methods of learning, Education of health professionals should move beyond the academic cloisters into the midst of societal realities where the health needs are the greatest. But the progress has not been to the extent desired; we need to develop the necessary critical mass for consolidated change.

This university has affiliated colleges of different systems of Medicine as also Pharmacy, Nursing, Physiotheraphy and Occupational Therapy. Taking over of the academic activities in respect of all health manpower like laboratory technicians, X-ray technicians, radiographers and operation theatre assistants merits consideration as this would help identify the conpetencies required of these health personnel and standardise the curricula.

Our examination system needs to be rationalised, standardized and nationalised, to ensure that graduates of any medical college conform to a commonly accepted national standard. This would ensure a high standard of knowledge and skills on the part of the practitioner. The National Board of Examinations is exploring the feasibility of having a national level examination for all postgraduate students to ensure uniformity and maintain high standards of evaluation.

It has been felt that centralised selection for postgraduate courses would greatly help improve the standards apart from saving valuable resources as well as time of prospective candidates. We are working on such a scheme covering all central Institutes and medical colleges. We also intend having centralised selection for Junior Residency in all medical colleges and hospitals under central government.

The biomedical knowledge explosion of the past 40 years is said to have surpassed that of all prior human history. To cope with scientific advances, doctors need regular updating of their knowledge and skills. Continuing education is essential to maintain the competencies of health professionals, and to enable them to respond to the challenges of the professionals environment. To meet this need, Continuing Education of Health Personnel has been given high priority in our plan approach. To achieve this, the district and regional level training institutions are being suitably strengthened. I feel there is a strong need for developing national and state level training facilities so that training programmes for various level of workers could be organised on a systematic basis.

Information, Education and Communication is the key for the success of any social effort. Only through a well planned and implemented IEC strategy can we convey the appropriate messages to the people and mobilise their active participation. Voluntary organisations are playing an important role as partners to the government in generating the momentum and accelerating the pace progress.

Tamilnadu had always been in the forefront of the nations's crusade for social development. A great opportunity is now before us for application of Health Sciences with incalculable benefits to human beings. With our collective wisdom, we should be able to analyse our strengths and requirements, and come forth with a clear cut strategy for future action for social action for community development. Let us rise to the occasion for meeting this challenge.

Excerpts from the Report

by

B P Rajan

Vice Chancellor, The Tamil Nadu Dr. M.G.R. Medical University, Madras

Recognition of Centres for Research and Ph.D. Programme

Five more centres have been recognised for Research and Ph.D Programmes bringing the total to thirty five. The five latest additions are : 1. Diabetics Research Centre, Madras, Department — Biochemistry; 2. Madras Medical College, Madras, Department — Forensic Medicine; 3. K.J. Hospital Research Post-Graduate Centre, Department — Nephrology; 4. Meenakshi Mission Hospital, Madurai, Department — Medicine; 5. The Heart Institute, Vijaya Health Centre, Madras, Department — Cardio-Vascular & Thoracic Surgery.

The total number of candidates so far registered for Ph. D programme is 182 in the following faculties : 1. Faculty of Basic Medical Sciences (35), 2. Faculty of Bio-Medical Science (75), 3. Faculty of Medicine Paediatrics and Medical Specialities (35), 4. Socio-Medical Faculty (2), 5. Faculty of Surgery, Obstetrics and Gynaecology and Surgical Specialities (12), 6. Faculty of Community Health, Social Sciences and History of Medicine (3), and 7. Faculty of Dentistry, Pharmacy and Nursing (20).

Faculties

Fifteen Faculties have been formed: 1. Faculty of Basic Medical Sciences; 2. Faculty of Medicine and Medical Specialities; 3. Faculty of Surgery and Surgical Specialities; 4. Faculty of Paediatric and Paediatrics Specialities; 5. Faculty of Obstetrics and Gynaecology and related Specialities; 6. Faculty of Community Health, Social Sciences and History of Medicine; 7. Faculty of Dentistry; 8. Faculty of Pharmacy; 9. Faculty of Nursing; 10. Faculty of Siddha; 11. Faculty of Ayurveda; 12. Faculty of Unani; 13. Faculty of Homoeopathy; 14. Socio-Medical Faculty; 15. Faculty of Bio-Medical Sciences.

The following Postgraduate Degree/Diploma Courses have been recommended for introduction.

(Contd. on page 26)

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(*Contd. from page 23*)

Clinical Courses

(i) Post-Graduate Diploma in Immuno-Haematology and Blood (BIHBT) Transfusion.

(ii) Post-Graduate Diploma in Medical Genetics.

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(v) Post-Graduate Higher Speciality Course in D.M. Critical Care Medicine.

(vi) Post-Graduate Diploma course in Accident and Emergency Medicine.

(vii) Post-Graduate M.D. Physical Medicine Course

Para Professional Courses

(viii) Post-Graduate Diploma Course in Bio-Medical Instrumentation.

(ix) M.P.T. Degree Course.

(x) Post-Graduate Diploma Course in Hospital Administration.

Examination Wing

A total number of 3106 Post-Graduate Degree and Diploma and Bachelor Degree candidates in the Faculties of Medicine, Dentistry, Pharmacy and Nursing etc are to be awarded their Degree Certificates. The first batch of candidates who have completed the C.R.R.I training in respect of B.U.M.S., B.H.M.S., B.S.M.S. and B.A.M.S., Courses are also awarded their certificates in this Convocation. The graduate are also awarded degrees "In Person".

Department of Experimental Medicine and Sophisticated Medical Instrumentation

The department has conducted a "Certificate Course on HIV/TB" from December 11th - 16th, 1994. Besides national course facilitators, 6 international experts taught on the course. 58 persons participated in the course.

Leptospirosis diagnostic services have been started in the department. This facility will be a boon to the physicians encountering this infection.

A study to determine the Normal Laboratory Control values of $CD^+/CD8^+$ for South Indians has been completed by using the Dynal technique. In addition patients with Tuberculosis, Sexually transmitted diseases, malnutrition, HIV/AIDS were assayed with this technique.

HIV infection in humans is diagnosed by the use of Serum. In addition, alternate strategies to diagnose HIV by Urine and Saliva has been postulated. A study is just completed where it shows good correlation when serum, urine and saliva are compared to detect anti HIV antibody.

The following diagnostic tests are offered to other health care professionals. They are: ELISA, Western Blot, Cyclospirin A assay and CDA^+/CDB^+ assay. Several workshops on AIDS Awareness were organised by the staff members of the department with special emphasis for college and school students. Besides Madras City, Seminars were conducted in Madurai and Ooty.

The Tamil Nadu Dr. M.G.R. Medical University with financial assistance from Government of India and W.H.O. is conducting the following Workshops/Seminars (a) Workshop on Health Care for the Elderly (b) Workshop on Rehabilitation (c) Workshop on Nursing Education.

II. The World Health Organisation are interested to initiate a dialogue with the Tamil Nadu Dr. M.G.R. Medical University on "Development of a center for medical education and research".

Regional Library

The Director General of Health Services, Government of India, New Delhi under whom the Health Literature Library and informatics services (HELLIS NETWORK) is operated has given accredition to this University Library as a Regional Medical Library (RML) for the Southern Region. The objective of a Regional Medical Library is to provide all necessary health information to the medical community. The Library has a collection of about 3317 books with subjectwise, authorwise and titlewise catalogues. The Library is subscribing to 104 journals and updating the Union Catalogue. The Library receives around 150 dissertations every year from its affiliated institutions and are used as a source for reference.

The training programme on "Workshop on Fundamentals of MEDLARS Searching" was organised in collaboration with the National Informatics Centre, New Delhi for 27 Medical Librarians and the Officer-in-charge of various Libraries of the affiliated institutions of this University

University Computer Centre

In order to streamline the administration of the University, Computer centre has been formed and equipped with Mini, Micro Computers and Software. A number of in-house tailor-made software have been developed. Orders have been placed for the purchase of Computers and Printers for the amount of Rs. 9 lakhs.

The University Computer Centre is moving towards total computerisation of all Examinations conducted by this University for the benefit of the students' community.

Students Welfare Activities

National Service Scheme

23 N.S.S. Units have been allocated to this University by the Director of Sports and Youth Services, Madras which were redistributed to the 21 affiliated institutions. The following activities are being carried out by the N.S.S. Units of this University.

Special Camp Programme

Each Unit of N.S.S. will adopt village/slum nearby to the college. In these adopted villages/slums, 10 days Special Camp will be conducted for scientific assessment of the existing health status of the adopted villages and on the basis of this information plan will be prepared for regular programme activities.

The following activities under regular Programme are also carried out by the N.S.S. units :

1. Community Orientation programmes, 2. Campus cleaning in the Hospital; beautification of Hospitals; O.P. guidance in the Hospitals during peak hours; Hospital services during emergencies; 3. Formation of herbal garden, kitchen garden and tree plantation; 4. Conducting awareness programmes on public health, family planning, Hygiene, Leprosy, AIDS, improvement of status of the women, smoking, dowry and untouchability, alcoholism, drug addiction, awareness of nutritional diet and remedies for minor ailments etc; 5. Health check-up, free Medical camps, Dental check-up for School children, Health Education and Immunization, literacy programmes, Blood donation/Eye donation camps, Medical Exhibitions and Rehabilitation for the Handicaps; etc.

Indira Gandhi National Open University

Schedule of Telecast for the period 1 July to 31 July, 1995
6.30 a.m. to 7.00 a.m.

Date/Day	Academic Programme	Title
3.7.95 Monday	Bachelor's Degree Programme	Curves
5.7.95 Wednesday	Library and Info. Science	Colon Classification Pt. V
7.7.95 Friday	Management	Credit Rating Services — A Case Study
10.7.95 Monday	Bachelor's Degree Programme	Wakron ki Jyamiti
12.7.95 Wednesday	Rural Development	Gramin Sahkari Sansthayen
14.7.95 Friday	Management	Introduction to Computers
17.7.95 Monday	Bachelor's Degree Programme	State and Weaker Section
19.7.95 Wednesday	Health Science	1. Sterilisation and Disinfection 2. Open Channel
21.7.95 Friday	Management	Intellectual Property Rights Pt. I
24.7.95 Monday	Bachelor's Degree Programme	Bharat mein Rajya tatha Kamzor Varg
26.7.95 Wednesday	Higher Education	Relevance of Higher Education
28.7.95 Friday	Management	Intellectual Property Rights Pt. II
31.7.95 Monday	Bachelor's Degree Programme	Training of Higher Civil Servants

National Centre for Biological Sciences

Tata Institute of Fundamental Research

P.O. Box 1234, IISc. Campus, Bangalore 560 012

Telex : 0845-8488 TIFR IN, Fax: 080-3343851, Tel: 080-3345615, 3342816

POST-DOCTORAL POSITIONS

The National Centre for Biological Sciences (NCBS) has been established by the Tata Institute of Fundamental Research (TIFR). It is located on the campus of the Indian Institute of Science, Bangalore.

A small number of NCBS-funded fellowships are available for post-doctoral positions each year. Applications from those with a Ph D degree, or equivalent, will be considered twice a year (late February and late August). Applicants should summarize recent research experience and include names and addresses of three persons who can be contacted for a critical evaluation of the applicant's research.

Research at NCBS is in the following areas.

1. Papillomavirus transcription and assembly in cervical cancers and during skin differentiation (Sudhir Krishna)
2. Dynamics of protein folding (Jayant Udgaonkar)
3. Gene expression and regulation in the nervous system (Mitradas Panicker)
4. Molecular genetics of olfaction (Gaiti Hasan)
5. Ion transport through biological membranes (Mathew K. Mathew)
6. Chemosensory genetics (Obaid Siddiqi).
7. Development of the nervous system and muscles (K.Vijay Raghavan)
8. Axonal path finding and target recognition by neurons (M.G. Muralidhar)
9. Characterisation of CD4 T cell function in infectious diseases (Girija Muralidhar)

Applications may be sent to the Administrative Officer at the above address.

CAMPUS NEWS

Satellite Link Up for IGNOU

Union Human Resource Development Minister, Mr Madhavrao Scindia, declared that satellite networking would be established to link Indian universities with the most modern libraries across the world for access to latest research and information. He was inaugurating the satellite-based Training Development Communication Channel Network (TDCCN) project of the Indira Gandhi National Open University (IGNOU) in New Delhi recently. He said such networks could help in overcoming the physical barriers in spreading education to the remote areas of the country in a cost-effective manner.

The networking connects IGNOU's main campus in the Capital with its 16 regional centres, four remote study centres at Port Blair, Lakshadweep, Bhuj and Itanagar, besides three state open universities.

On the occasion, Mr Scindia reiterated the commitment of the government to eradicate illiteracy from the country and achieve the target of universalisation of education.

By the turn of the century, the government intended to invest about six per cent of the GDP on education, involving an outlay between Rs 65,000 to 80,000 crore, he said, adding that the education budget would gradually be increased every year. The primary emphasis would be on the development of school education and improvement in the standards of higher education.

The liberalisation policy would enable the Government to divert funds from other sectors now thrown open to the private sector and spend more on the development of education, felt the Minister.

Steps would be taken to prevent commercialisation of higher education and monitor its quality, Mr Scindia assured. Universities which failed to provide the desired standards would be derecognised after an assessment of their performance for three years, he decided.

But the most important task before the Government was to ensure that all the 170 million children in the age group of one to six years were enrolled in schools to achieve the target of universal education, the Minister stated. The adult literacy programme was also high on the list of priorities.

The satellite linkup would enable IGNOU to conduct live interactive counselling sessions with students and establish coordination with state open universities and the university's regional centres through the teleconference mode. It would also make it possible to transmit question papers, course material and assignments instantly.

Operating through a studio facility on the campus in Delhi, the network would uplink audio and video signals to the satellite on the extended C-Band. The signals would be beamed back over the entire nation and picked up at direct reception terminals located in several towns and cities.

For the purpose, a one-way video and two-way audio communication system operating through the Indian National Satellite (INSAT) system has been established by the Indian Space Research Organisation (ISRO) and IGNOU.

Varsity Staff Exchange Programme

The Department of Women's Studies of Alagappa University is reported to have entered into an agreement with York University in Canada.

According to the Vice-Chancellor, Dr. P. Ramasamy, the exchange programme, which would come into effect from the coming academic year, would promote academic and cultural interchanges in education and research between the two universities. The participating bodies in the programme would be the Centre for Feminist Research, Division of Social Sciences, and the Faculty of Environmental Studies of York University and the Department of Women's Studies and the Centre for Women's Studies of Alagappa University.

The Vice-Chancellor said that there would be an exchange of staff and students, joint research projects and publications between the two universities. Mutually exchangeable courses would also be taught in the Indian and Canadian contexts in the two institutions. The Department of Women's Studies in both the universities would work at securing collaborative research grants for action research on women in Tamil Nadu.

Alagappa University would receive Canadian students and teachers from August onwards. Two students would visit Karaikudi every year and a similar number would go to York from here. The Canadian faculty members would teach a course and carry out a project here, the results of which would be published as a joint venture. In all the research projects, priority would be given to studies on women in Tamil Nadu. Dr. Ramasamy felt that the women of Tamil Nadu had hitherto been receiving a marginalised historical focus. Hence a rigorous intellectual analysis was needed to highlight their history and achievements. The Department of Women's Studies was receiving students from the developing countries and during this year students from Denmark and Canada would be admitted.

He pointed out that academic degrees from India were subject to reassessment for accreditation with the universities of the West, but the significant achievement of the Department of Women's Studies of Alagappa University was that its course had been recognised as equivalent to the postgraduate course offered by Aarhus University, Denmark and York University.

Refresher Course in Economics

The Department of Economics, Maharshi Dayanand Saraswati University, Ajmer recently organised a Refresher Course on Economics. Sponsored by University Grants Commission, the course was intended for college teachers in Economics nominated by the Directorate of College Education, Jaipur and selected from among nominations received from the local (Ajmer) and outside colleges, both government and private. 27 participants from all over Rajasthan attended the course.

The aim of the Refresher Course was to update the participants' knowledge in the subject of Economics. Accordingly more emphasis was given on the issues related to Macroeconomics, International Economics and Microeconomics. Economic issues related to Indian economy particularly since liberalisation were also dealt with in greater detail.

The topics discussed at the Refresher Course included : National Income concept and its matrix representation, Capital Market in India, Liberlisation Measures and Need for Liberalisation, Linear Programming and Theory of Games, The Budget of the Central Government and Related Issues, Mathematical Economics — Basic Tools, Classical Macro Economics, Issues in Rural Development, Economic Forecasting, IS-LM curve and Effectiveness of Monetary and Fiscal Policy, Indian Monetary Policy : A Critical Review, Inflation in India : Promises and Prospects, Application of Econometrics, Monetarists and Fiscalists Controversy, Computer and its Application, Role of Model Building in Economics, Marginalists controversy — Critical Analysis of Neo Classical Theory, Development in the Theory of Firm, Welfare Economics, Issues Related to Population, and Models of Income Determination.

In the inaugural session, Prof. P.L. Chaturvedi, Vice-Chancellor of the University, delivered a lecture on economic aspects of Indian thinkers. He was of the opinion that the ideas of Indian economic thinkers had much relevance to the present economic circumstances than the ideas and theories propounded by Western economic thinkers. Whereas Western economic thinkers began the Economics with 'Scarcity', Indian economic thinkers began the Economics with 'Abundance'. In fact, nature had given abundance for everybody's need but not enough for one man's greed, he added.

Shri Yatindra Singh, Chairman, Rajasthan Public Service Commission, in his address at the valedictory session emphasised that economic decisions of the Government taken without considering masses at large had no meaning and would not yield any fruitful result.

JNU Plans Centre of Mathematics

The Jawaharlal Nehru University was trying to raise resources from the National Board of Mathematics and the Department of Science and Technology (DST) to start a new Centre of Mathematics in the School of Physical Sciences. The International Centre for Genetic Engineering and Biotechnology (ICGEB) of UNIDO located in Italy and at New Delhi have developed a Centre for Biotechnology at JNU to offer a JNU Ph.D. to their fellows selected on global plane. This was revealed by Professor Yoginder K. Alagh, Vice-Chancellor, while presenting the annual report on the working of the University. He highlighted some of the academic and research activities of the University and said that all the Schools and Academic Centres continued to maintain a high standard despite several infrastructural constraints in their teaching and research.

Prof. Alagh revealed that the University had decided to open six new centres in backward and under-developed regions for the entrance test for 1994-95 in order to facilitate entry of students from backward regions, weaker sections and remote areas. The UGC had identified the School of Physical Sciences, the School of Environmental Sciences and the Centre for Political Studies of the School of Social Sciences under its scheme for Special Assistance and the Centre for Economics Studies and Planning of the same School under its Emerging Area — Environmental Sciences — Programme, with proper financial assistance. The School of Life Sciences which got Special Assistance (DSA) for five years earlier got an extension for another five years.

The faculty attracted support for more than 171 research projects amounting to Rs. 2.33 crores from 40 national and international agencies. Faculty's output in terms of quality publications during the year was an impressive tally of 76 books/edited volumes, 143 chapters contributed to books and over 400 articles in prestigious research journals, both in India and abroad. Many faculty members received national and international recognition for the scholarship and academic achievements in various disciplines of their specialisation, including nation's highest award in Science -- the prestigious Shanti Swarup Bhatnagar Award for Prof. Karmeshu.

Speaking about achievements in 1994-95, the Vice-Chancellor said that the University had taken a significant step to give weightage to the OBC candidates in the entrance examination from the ensuing academic session. The deprivation points the OBC students get would depend on the level of development from which they got their qualifying degrees.

The introduction of a new two-year Master's Programme in Economics (International) with funds from Ford Foundation to equip the students with the analytical tools for understanding the evolution of the world economy as also a three-year degree course in Korean language to meet the growing demand for Indian experts with a sound knowledge of Korean language, from the ensuing academic session beginning July this year, were the other highlights for the current year.

The Planning Commission endowed 'Sukhamoy Chakravorty Chair in Economics' together with a Unit at the University to promote studies and research in Planning, Development and related issues by providing a grant of Rs. 40 lakhs for creating the endowment. The Chair has been instituted to commemorate the memory of one of the most distinguished economists of the country.

The Vice-Chancellor pointed out that the University was planning to position a state-of-the-art computer networking system at a cost of over Rs. 1.5 crores by the end of next year. Under this scheme, the existing over 145 computers in JNU will be inter-connected with each other, and with databases on a global plane.

Prof. Alagh said that the University was pursuing with the Planning Commission a proposal to establish a Science Centre in the University to provide assistance and facilities to distinguished scientists to collaborate with JNU.

A new funding arrangement was under consideration with the Department of Biotechnology for the Genetic Engineering Unit at the University. Under this arrangement, the DBT would continue to fund the Unit till the end of IXth Plan i.e. 2000 A.D.

Talking about welfare of weaker sections, Prof. Alagh said that the University had instituted an endowment fund for SC/ST students out of a collection of increased rates for application forms and booklets amounting to Rs. 4 lakhs. The University had also set up two special fellowships at Ph.D. level to support SC/ST students. The Department of Social Welfare was also funding a new hostel with a view to providing accommodation for such students, the Vice-Chancellor added.

Gandhiji in the Changing World

An International Seminar on "Gandhiji in the Changing World" was organised by the Peace Research Centre of the Gujarat Vidyapith and Gandhi-125 Committee of Gujarat as a part of the 125th Birth Anniversary Celebrations of Gandhiji. 6 participants from overseas (3 from Japan, one each from Tanzania, Germany and France) and 25 scholars and activists from several universities of Maharashtra, Gujarat and West Bengal participated.

In his introductory remarks, Prof. Ramlal Parikh, Vice-Chancellor, Gujarat Vidyapith, said that we were drawing close to the end of 20th century — a century of devastating wars and violence. Gandhiji stood as a great hope of survival of the human kind. This century of wars, militarisation and destruction of human beings and nature had unquestionably established the utter futility of violence in any form. Gandhiji had anticipated these developments as an inevitable corrolary of process of indiscriminate growth of materialism. Gandhiji's resounding message of world without violence through practice of love and goodwill among all the peoples of the world, was the real hope and beacon light in the midst of all pervasive dark clouds of destruction and violence.

Inaugurating the seminar Mr.

Justice C.S. Dharmadhikari of Bombay High Court said that Gandhiji wanted to live full span of 125 years envisaging that by that time whole world would be free and apartheid in South Africa would also end.

Justice Dharmadhikari said that Gandhian programmes of Swadeshi, Trusteeship, Satyagraha, prayer and reconciliation of Science with spirituality were extremely pertinent in the present context. Gandhian philosophy provided the safeguard for the survival of the world.

After the inaugural address the participants from different continents expressed their experiences of Peace and Non-violence. Mr. Bill Sutherland from Tanzania recalled Gandhiji's experiments of Satyagraha in South Africa and its wide impact over the continent. The peace initiatives of Kenneth Kaunda of Zambia and Nelson Mandela of South Africa were inspired by Gandhiji's experiments of Truth and Non-violence.

Mr. Peter Ruhe of Germany recalled Gandhiji's relationship with Germans like Kellen Bech.

Prof. Amlan Datta shared Indian perception of non-violence.

The first session began with a keynote address of Shri Narayan Desai who elaborated on the theme of the Seminar. According to him, in the rapidly changing world, Gandhiji was also an ever growing phenomenon. Gandhiji himself had stated that he grew from truth to truth. He pleaded for understanding the essentials of Gandhiji's ideas rather than details of various events. The events were a changing phenomenon. One should view events in the context of essentials of Gandhian Thought.

The second session discussed the theme of "Education for Non-violence". Prof. P.C. Vaidya pleaded for developing a culture of non-violence in the entire society so that the behaviour of children at home and school did not become different. Learning through craft as productive work was very important in any educational process. Children should be encouraged to make their creative contributions to the development of the society through both theoretical and practical knowledge.

Dr. Minaru Kasai of Japan commended the Lokbharati experiments of Education which were in accordance with the oriental cultural values. Emphasising man's relation with nature, he highlighted the importance of caring for nature (environment) and development of mind through transcendental process. He pleaded for "Education for self-reliance".

The third session was devoted to discussions on non-violence as a way of life. Eminent Sarvodaya thinker Shri Siddhraj Dhaddha said that after 1945 there was a new phase of colonialism which was marked by the attempt of global domination on the pretext of economic development.

Post 1990 developments of Globalisation with signing of GATT treaty were changing the very nature of world society. Liberalisation of market economy on which the ruling elites of the world were united was reinforced by the World Bank and the IMF.

Gandhiji in his book *Hind Swaraj* drew the attention of the world to such parasitic tendencies. To combat this disaster Gandhiji had put forward the programme of a decentralised self-reliant community. The natural resources of land should be universally available. Snatching of such resources by few created an inequitous society.

The fourth session dealt with 'Gandhian perception of new economic order'. Sarvodaya leader Shri Thakurdas Bang said that men's needs were social, cultural and aesthetic. Extreme emphasis on material needs only was harmful. 'Wants' were becoming 'needs'. Distinction between need and greed needed to be fully established. Large scale production was advocated in the name of cheap cost. But if the social cost, cultural cost, environmental cost were added high cost of large scale economy would become discernible. Empowerment of village was necessary for a decentralised economy. Gandhian economic order was not based on consumerism and escalation of greed. It was based on trusteeship and self-reliance and was more sustainable. The centralised economy resulting in consumerism, industrialisation and militarism thrived because of fear of insecurity. The escalation of race would lead to collective suicide. Yet no nation dared to withdraw herself from the arms race. It was high time to work for a non-violent defence system.

The fifth session dealt with 'Gandhi in militarised world'. Fr. Oshida of Japan said that in April 1952 an agreement between USA and Japan on resource development was signed. It converted some islands of Japan as tourist spots. Some new airports were constructed to receive tourists. But only military planes were using these airports. 3 groups of Japanese peace movement were fighting against military use of airports.

In spite of the fact that there were 125 volcanoes in Japan, 40 nuclear stations were constructed endangering the existence of Japan.

USA manufactured arms not to use in their land but to send them to other lands. The question that whether a country could defend herself through non-violence, the answer was that there was nothing like impossible in non-violence. Attempts must be made.

National Workshop of Lokshala Project

A ten-day national orientation workshop of Lokshala project recently concluded at Dr. Y.S. Parmar University of Horticulture & Forestry, Nauni. The workshop was inaugurated by former University Grants Commission Chairman and Chairman of Bharat Jan Vigyan Jatha Prof Yashpal at which 90 delegates from 22 states of the country participated. At the workshop special lectures on universalisation of the education were delivered by eminent scientists.

Speaking on the occasion, Prof. R.G. Takwale, Vice-Chancellor, Indira Gandhi National Open University said that at present IGNOU was performing a task of higher education through distance education and now planning to include elementary education very soon. He said that there was an urgent need to develop learning system as per the requirement of the society. Learning could be very effective if there was some different motivation other than simply certification and using the knowledge in life situation to solve the problem, he added. He revealed that IGNOU was including more and more professional courses as per the demands of the society. IGNOU through distant education was training 5 lakh members and Presidents of Gram Panchayats in one year, he said.

Prof. L.R. Verma, Vice-Chancellor, University of Horticulture & Forestry, said that the mandate of Lokshala project and this University was same. He said that University of Horticulture & Forestry, Solan was making a big plan to train the school and college drop-out students in the field of Horticulture & Forestry, so that they could generate self employment. Prof. Verma said that the work of transfer of technology in hilly region was difficult and different from plains, so there was a need to develop a system as per the requirements of the mountanous region. He said that Himalayan region was richest in the world in terms of biodiversity. Our traditional knowledge and experiences were far better than those of other societies but till today, not much had been done to document it properly. The University was going to take up the challenge of documentation of traditional knowledge in a big way, he asserted. Touching the gender issue Prof. Verma said that a father could never play the role of mother, whereas mother could educate the children and whole family. It was, therefore, important to educate the girl child for the healthy development of society, he stressed.

Shri Sharad Chandra Behar, Director General, M.P. Academy of Administration, said that after 73rd amendment of the constitution, Panchayat Raj institutions had emerged as new tier of the government, much closer to the people than the government. They therefore had to be involved in a big way in the daunting task of universal elementary education. Experiences showed that elected members of the Panchayat could pay great attention to the improvement of education in their surrounding schools by keeping a watch on the teachers, he added.

Prof. H.P. Dixit, Vice-Chancellor, Himachal Pradesh University, Shimla, who presided over the concluding function, said that the course curriculum had to be formulated as per the requirements of the industries and the society. He said that the courses formulated in the classrooms could not provide an opportunity to the youth to improve their personality. He appreciated the role of Lokshala project and assured that the Himachal Pradesh University would help this project to universalise the education system.

After detailed deliberations a draft of Nauni Declaration was prepared in which it was decided that Lokshala project would focus on pre primary education to prepare the child for primary school admission as article 45 of the constitution stipulated that education upto 14 years would be made available to the children. The role of NGOs and gram panchayat was lauded and it was proposed that local bodies would be made responsible to check the day-to-day functioning of the schools. Experts felt that in the beginning a child could be taught in mother tongue for the healthy development of education. Lokshala project would focus on raising the standard of the Govt Schools so that maximum people could be attracted for elementary education. The burden of school bag on children needed reduction for the mental as well as physical development of the child. The gap between higher classes and SC & ST literacy should be decreased for the overall development of society, the declaration said.

New Courses at IGNOU

The Indira Gandhi National Open University (IGNOU) proposes to introduce three new courses. These are : Bachelor in computer applications (BCA), Postgraduate diploma in journalism and mass communication (PGDJMC) and certificate in computing (CIC).

The eligibility condition for the BCA course is a pass certificate in the senior secondary examination with mathematics as an elective subject. The Class XII Certificate will also hold good for admission to the CIC course.

For the programme in journalism, graduates with two years' experience in media or communications organisation can apply.

Application forms for these courses will be available at the office of the Registrar (Admissions), at IGNOU's Maidan Garhi campus. The last dates for submission of application forms for the computer programmes is July 10 and that for the journalism course Aug. 25.

There is no age bar on applicants for these courses.

Centre for Gandhian Studies

The Postgraduate Department of Gandhian Studies of the Gujarat Vidyapith was started in 1968 as a separate department to develop inter-disciplinary specialised studies on various aspects of Gandhian Thoughts in the global context. Since then 169 students in regular postgraduate classes and 771 through correspondence courses have acquired M.A. degree in Gandhian Studies. About 150 students have passed M.A. in Social Reconstruction whcih also deals with Gandhian constructive work as a main subject. The degree of M.A. in Gandhian Studies is a qualifying degree for secondary teachers and teachers in Rural Institutes. Thus M.A. degree requires field work based project report on various aspects of Gandhian ideas as practised in different institutions. 180 such reports have been prepared.

In addition to M.A. Studies, the department conducts M.Phil. degree course in Gandhian Studies. Some students have completed it. Two students are further pursuing Doctorate Studies (Ph.D.) in this subject. One student has completed a post-doctoral research associateship also on this subject.

Apart from conducting postgraduate studies, the department conducts a foundation course on Gandhian Studies and constructive work for the first-year students of three year bachelor degree course in Social Sciences. Every year 100 students undergo this foundation course.

In addition, the department also helps B.Ed. and M.Ed. departments in conducting a course on Gandhian Education in Philosophy of Education.

The department has managed to have a large collection of over 15,664 books and 27 Journals. The department has recently published a book "The Way is the Goal : Gandhi Today" written by distinguished international Social Scientist Prof. Johan Galtung.

The department has conducted 5 workshops for secondary teachers of Social Studies. It also conducted one summer institute for teachers from different states of India.

The Department has been conducting for several years a short course of one month for foreign students coming to the Gujarat Vidyapith for "a semester abroad" programme.

NISIET Training Programmes

The Small Enterprises National Documentation Centre (SENDOC) located at National Institute of Small Industry Extension Training (NISIET) in Hyderabad proposes to organise six short term training programmes during July-Nov. 1995. These include : (1) Library Automation through CDS/ISIS (21 Aug-1 Sept. 95); (2) Marketing of Information (4-8 Sept. 95); (3) Office Automation (4-8 Sept. 95); (4) Management of Libraries and Information Centres (11-15 Sept. 95); (5) Technology Data Base (16-20 Oct. 95); and (6) Computer Applications in Library and Information Services (6-17 Nov. 95).

Further details may be obtained from Ms K. Subhashini, Head (Doc.), National Institute of Small Industry Extension Training, Yousufguda, Hyderabad-500 045 (India).

Refresher Courses in Lib & Inf. Sc.

The Department of Library & Information Science of the Aligarh Muslim University proposes to conduct two UGC-sponsored subject oriented refresher courses in Library and Information Science for Lecturers and Librarians. These courses are (i) Modernisation of library services and operations (24.7.95 to 24.8.95); and (ii) Information management in libraries (11.1.96 to 8.2.96).

The catchment area is J&K State, Himachal Pradesh, Punjab, Haryana, U.P., Rajasthan, Bihar, West Bengal, Assam, Orissa, North Eastern States Universites & Colleges.

The Lecturers in Library Science and Librarians/Asstt. Librarians, etc. in the pay-scale of

Rs. 2200-4000 working in University and College Libraries with a minimum of 5 years experience are eligible to participate in the Refresher Courses. 85-90% of seats are reserved for the catchment area and the remaining 10-15% of seats will be filled-in on all India basis.

Further details and application forms may be obtained from Prof. Mohd. Sabir Husain, Chairman, Department of Library & Information Science, Aligarh Muslim University, Aligarh-202 002.

Journal of Francophone Studies

The Department of French of the Central Institute of English and Foreign Languages has launched ESSAIS : Journal d'etudes francophones/Journal of Francophone Studies. This is a bi-annual, bilingual publication devoted to sharing teaching experiences, recent advances in Didactics of Teaching French as a Foreign Language, Linguistics, Phonetics & Phonology, Translation, Literature, Civilisation and other relevant interdisciplinary themes in the area of Francophone Studies. It also contains news of research, dissertations, book reviews, reports of seminars/workshops, etc.

Computer Courses at Jamia

Jamia Millia Islamia University has introduced various courses in computer science and applications. These are Master of software systems (MSS), postgraduate diploma in computer applications (PGDCA), postgraduate diploma in computer applications (part-time), and BA/BSc (Pass) with computer applications as a subject.

We Congratulate ....

Prof. R.A. Mashlekar who has taken over as Director General of the Council of Scientific and Industrial Research, New Delhi.

News from Agricultural Universities

International Seminar on Resource Management

Mr. R.S. Gujral, Chief Technical Advisor, FAO/UNDP currently working at FAO HQ Rome, recently inaugurated a two-day International Seminar on Natural Resources Mangement and their Linkages with Farming Systems at Dr. Y.S. Parmar University of Horticulture & Forestry, Nauni. The seminar was sponsored by Winrock International Ford Foundation & ICAR and jointly organised by the Department of Social Sciences of Dr. Y.S. Parmar University of Horticulture & Forestry, and International Centre for Integrated Mountain Development, Kathmandu, Nepal. 70 scientists from different parts of the country and abroad participated in the seminar.

Mr. Gujral, in his address, emphasised the role of natural resources, particularly forests and water, in meeting the day to day needs of the human kind. He stressed that sustainability of these resources was crucial for gearing the tempo of overall development and for passing fruits of this development to future generations. Mr Gujral said that Bio-energy conservation needed careful thought. He called for voluntary people's participation in activities like fighting forest fires, watershed management and protecting new forest plantation. He said that there was a special significance of this seminar to Himachal Pradesh where farming systems constituted the backbone of state's economy & welfare. He added that United Nations Conference on Environment and Development in Rio had drawn the attention of world to the dire need for environmental conservation for the future of mankind. He strongly advocated genetic improvement of trees, forest policy research and integrated watershed management. He further added that shift from maize wheat farming system to rice farming system in Punjab and Haryana had resulted in depletion of ground water thus posing a threat to sustainable agricultural production. The same was true of Himachal Pradesh where increasing fruits & vegetable production needed forest produce for packing, he added.

Prof. L.R. Verma, Vice-Chancellor of the university, in his welcome address, said that with increased coordination among various planning and implementing agencies, the vast specialized scientific manpower could be utilized for effective and scientific management of our natural resources. Prof. Verma revealed that Parmar University was promoting eco-tourism at different Research Stations located on National and State highway for the promotion of environmental awakening among the people. He added that keeping in view the major role of mountain women in natural resource management a special cell on women development would be opened at the University Campus for helping the women in Agriculture/Horticulture & Forest farming sector.

Dr. Mahesh Banskota, Dy Director General, ICIMOD, Nepal, in his keynote address, presented the detailed view of degeneration of natural resources particularly in the Hindukush Himalayas. He pointed out that the forestry in Asia was in crisis and responsible for high rate of deforestation. As per FAO estimates for 15 developing countries deforestation rate was as high as 3.5 million hectares per year. The deforestation rate for India was 2.5 per cent per annum. Dr. Banskota said that introduction of latest technology switching from traditional to high value cash crops through excessive use of chemicals might be useful for the short term but harmful in the long run. He said that there was an urgent need to link the production with eco-friendly crops for the better future.

Dr. P.L. Gautam, Dean, COF, Nauni emphasized the role of natural resources on holistic pattern for sustainable agro-ecological development.

Maharashtra Agril Varsities Meet

"Nearly 87% of the farming is rainfed in Maharashtra and there is an urgent need to carry out research on various aspects of dryland farming" said the Maharashtra State Minister of Agriculture, Mr. Harshvardhan Patil, while inaugurating a Joint Research and Development meeting of the four agricultural universities of Maharashtra held at Mahatma Phule Krishi Vidyapith (MPKV), Rahuri. He said that majority of the farmers in Maharashtra derived their livelihood from agriculture. He expressed the need to carry out research on various aspects of dry farming and generate information which would help farmers in getting more income from dry farming. Dry farming research should be carried out on priority basis, he said.

In order to increase farm production there was a need to achieve coordination between agricultural scientists working in the universities and various development departments like agriculture, horticulture, etc. Now a days farmers required information from other fields like irrigation, fishery, dairying, etc alongwith agriculture. Their expectations regarding supply of seeds, seedlings and grafts by the universities were increasing. New technology was a boon to the farmers. The technical know-how and recommendations should reach the farmer through agricultural department, since it was very necessary for agricultural development, he added.

Earlier Dr. S.K. Dorge, Vice-Chancellor, MPKV, who presided, reviewed the research work done by the four agril. universities during 1994-95.

Various farm publications printed by the various farm varsities were released on this occasion. These included Shri Sugi Kharif 95, cultivation of maize, plant protection pocket diary and several folders, printed by the MPKV, and Silk Industry by MKV, Parbhani, Farm Folders of KKV Dapoli.

World Environment Day

Dr. Y.S. Parmar University of Horticulture and Forestry, Solan recently celebrated the World Environment Day-cum-Kisam Mela at Regional Horticultural Research Station, Jachh (Nurpur). On this occasion more than 50 schools participated in environmental awareness programme comprising environmental painting, declamation contest, quiz, slogan writing, songs and poems recitation competitions. Besides different departments of Dr. Y.S. Parma University of Horticulture and Forestry, state department of Horticulture, HPMC, Agro Industries, HPKV, Palampur, Ayurveda and other departments participated by putting up an exhibition of their products and achievements. In the Kisan Mela about 2000 farmers and members of Mahila Mandals took part.

Prof. L.R. Verma, Vice-Chancellor, Dr. Y.S. Parmar University of Horticulture and Forestry, who presided over the function, said that Jachh research station and its satellite stations at Nagrota Bagwan and Dhaulakuan alongwith Krishi Vigyan Kendra, Chamba would be developed as Mini University and would be fully equipped for generation, dissemination of technologies needed for lower hills and subtropical regions of the state. He also announced that from this August a Vocational Course on subtropical horticulture would be started at Regional Horticultural Research Station, Jachh on the same pattern as at Regional Horticultural Research Station, Mashobra for temperate fruit crops.

Prof. Verma said that emphasis would be laid on production of quality fruits and forestry, of nursery plants, vegetable seeds suited for lower hills and subtropical conditions. University would make all possible efforts to meet the requirements of the farmers for quality plants material and vegetable seed without dependence from outside the state, he added.

He said that the University had taken steps to start floriculture, mushroom cultivation, bee keeping and Postharvest Technology Sections at this station for diversification of horticulture. This station was also being equipped with all infrastructure facilities and scientific manpower for effective transfer of technology.

News from UGC

Countrywide Classroom Programme

Between 1st July to 14th July, 1995, the following schedule of telecast on higher education through INSAT-ID under the auspices of the University Grants Commission will be observed. The Programme is presented in two sets of one hour duration each every day from 6.00 a.m. to 7.00 a.m. and 1.00 p.m. to 2.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

6.00 a.m. to 7.00 a.m.

1.7.95

"Tennesse Williams - The Humane Dramatist : The Glass Menageries Revisited"
"Environmental Odyssey"

2.7.95

"Bookfare"
"Rembrandt"
"The Week Ahead"

4.7.95

"The Chola Temple Quartet - Part I"
"Current Affairs : Economics and Commerce - Part 9"
"Yours Sincerely"

6.7.95

"Oxidation Number First Principle"
"The College of Combat : Defence Services Institute of Leadership and Warfare - Part I"

8.7.95

"Science Aptitude Quest - Part I"
"The Story of Rice"

9.7.95

"Career Counselling : Foreign Languages as a Career"
"Simply on Symphony"
"The Week Ahead"

11.7.95

"The Chola Temple Quartet - Part II"
"Invitro Propagation of Plants"
"Near Net Shape Processes"

13.7.95

"Cost Reduction Techniques in Housing"
"Crystals and Cancer"
"The College of Combat :Defence Services Institute of Leadership and Warfare - Part II"

IInd Transmission

1.00 p.m. to 2.00 p.m.

1.7.95

"Bookfare"
"The Language of Cinema"
"The Week Ahead"

2.7.95

No Telecast

3.7.95

"Oscillation - An Introduction"
"Current Affairs : Economics and Commerce - Part 9"
"Yours Sincerely"

4.7.95

"Chemistry of Vision"
"Need to Reshape Election Laws"
"Oxygen Radicals and Antioxidants - Part IX : Vitamin E - An Important Antioxidant"

5.7.95

"L'emmental Quel Talent!"
"Indo-Roman Trade - I : Bronzes and Glass"
"Poverty Alleviation Programme"

6.7.95

"First Meal of the Day"
"Making of a Newspaper - Part V : Photography"
"A World of English"

7.7.95

"Breaking the Sound Barrier"
"L'impulsion"
"Degraded Eco-system"

8.7.95

"Kerala Kala : Kathakali"
"DIKARA - The Traditional Folk Art of Kumaon"
"The Week Ahead"

9.7.95

No Telecast

10.7.95

"Ostillation : Important Parameters"
"Telephone Manners : Personal Calls"
"Cyclones : When Disaster Strikes"
"Ambassador of Culture"

11.7.95

"The Discoverer of Polarography"
"Prof. N.S. Bendre : Evolution of an Artist"
"Oxygen Radicals and Antioxidants - Part X : Antioxidar Therapy in Physical Exercise"

12.7.95

"Indo-Roman Trade - Part II : Coins"
"Mangrove - Facts and Policies"
"Use of Isotopes in Nutrition"

13.7.95

"Application of Information Technology Tools through Satellite - Part I"
"Making of a Newspaper - Part VI : Design"
"Shakespeare - As We Like Him"

14.7.95

"New Horizons - XXVI"
"Young Scientist"
"Yoga in Education"

Hindi Telecast

प्रात: 6.00 से 6.30 बजे तक

3.7.95

"स्नेह निर्झर बह गया है"

5.7.95

"स्वच्छ जल परिस्थिति की"
"अनाज का वैज्ञानिक भंडारण"

7.7.95

"संवेदना–एक संजीवनी"

10.7.95

"लोक शिल्प"
"लास्यकला : ओड़िसी"

12.7.95

"स्क्रीन प्रिंटिंग की कला"

14.7.95

"टाइटेनियम : अद्‌भुत धातु"
"जुडो : एक प्रतियोगी खेल"

Comprehensive and Dependable

S. Abdul Kareem*

General Studies Manual 1995. Delhi, Tata McGraw Hill, 1995. Pp. discontd. Rs. 285.00.

General Studies Manual - 1995 brought out by Tata McGraw Hill is a mammoth work, voluminous, of course, (1376 pages) is a comprehensive and dependable reading material and set of exercises for those taking the Civil Services Preliminary Examinations of the UPSC.

Categorised into 12 sections, the Manual presents the subjects in a clear perspective in an easy style facilitating comprehension. Written by the learning (not learned) faculty, drawn from reputed colleges, the material carries the distinct stamp of authority without any pretension to a scholastic approach. The objective questions with multiple answers, termed responses, all correct, one such more correct than the rest, is the strong point about this work with elaborately worked out examples. It is, in essence, a feat of academic endurance that each section has questions as many as 1214 in Sciences, 314 in Indian History, 600 in Geography, 702 in Indian Polity, 562 in Indian Economy, 646 in General Mental Ability, 199 in General Knowledge, 50 in Current Events awaiting to be updated in a Supplement offered free to the buyers between April 30 and July 16, 1995. There is no other manual on the bookstands with a tally of multiple choice questions aggregating to 6500. It is strange there are no questions on the "Indian National Movement", outlining the political developments of the present era which may stand covered in the Supplement. However, it is a well written piece, eminently readable and it bids fair to inculcate the spirit of nationalism in the Post-Independence generation.

Why do stars twinkle ? Rhymes lisped unwittingly lead us to the realms of the wide-eyed wonder compelling a thought process as to why things happen the way they do. Twinkling stars make one think and also blink. The light that comes from the stars suffers a refraction through layers of air which are not stationary because of convection of currents in the air. Questions on science topics are mainly of a cognitive nature which may not necessitate much of reflection. The stress is on answering the maximum items. Time management is very important and the applicants are to develop a sustained speed. Some of the questions from social sciences present options more of evaluatory nature involving the sense of judgement. The original aim of the East India Company : (a) Colonisation (b) Trade (c) Exploitation of raw materials (d) To find the market for the manufacture of goods. Questions such as the one cited are 'carefully researched and analysed' and they must find favour with those given to quizzing.

Each section is fortified with a Glossary, alphabetically arranged, some items cryptic and brief, a few elaborate, if not exhaustive. The Section on Indian History is rounded off with chronology of principal events, ancient as also modern. Geography besides being replete with facts of interesting nature, comes alive and pulsates with population dynamics as a part of Human Geography. There is a separate chapter on Indian Geography where in physiography, climate and soil conditions figure prominently with explanatory notes.

The section on Indian Polity deals with constitutional issues. The story of the reorganisation of the States with the death of Shri Potti Sree Ramulu in Anantapur of Andhra Pradesh after a hunger strike of 56 days in 1953 which precipitated a decision, is narrated with an eye on facts and figures. There is an exhaustive coverage on committees and commissions that have a bearing on the life of the nation and they are tellingly told, coming upto the recent functioning of the Election Commission with its 73rd constitutional amendment to decentralise the conduct of the elections.

The chapter on "General Mental Ability" is written thoughtfully with fitting and suitable illustrations strengthened with 'Tables of Analogical Relationship'. The technique followed through Assertion and Reasoning does compel one to exercise one's mind as it is a part and parcel of Behavioural Evaluation. 'General Knowledge' is covered in an interesting chapter with the long list of 'the Firsts' and 'the Superlatives' which are quite exhaustive and include among other subjects the ones like religion, dances, sanctuaries and sports. The chapter on 'Current Events of National and International Importance' is the most up-to-date touch-

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Principal, Anjuman-e-Islam's Nehru Arts, Science & Commerce College, Hubli-580 020. Karnataka.

ing upon the issues like the Security Scam, Jharkhand, Uttarkhand, the Hubli Idgah Flag Hoisting Issue, TADA, GATT, culminating with Sushmita Sen, the Crowned Miss Universe.

The monumental work marches to its majestic close with Select Questions from the previous test papers, practice test papers as many as 5 along with Question Papers of the last 5 years with answers. The present voluminous work is a feather in the cap of Tata McGraw Hill's series, which constitute an impressive array of books in the field. Coming as they do from the prestigious publishing house, they unmistakably point to the excellence in the branch fostering competence ultimately resulting in supperior performance. By way of suggestion, such a volume can have clippings from the "Turning Point" immortalised by Shri Girish Karnad and Prof Yashpal who as communicators drive home the points in their inimitable style. Such an addition may provide the necessary breakthrough in sharpening the cutting edge of competition. The manual prepared by a team of ten specialist teachers, by all accounts, is a dependable guide to the aspirants scaling the ladder of the highest competitive examinations of the land.

A glaring mistake on page XX under 'Useful Hints and Information' regarding encoding optional subjects may be corrected through Errata.

The co-ordinator of the project, Dr Tara Chand deserves to be congratulated for his painstaking efforts of gigantic proportions besides his beckoning chapter on Physics.

Jamsetji Tata's firm conviction was 'to lift up the best and the most gifted so as to make them of the greatest service to the country.'

The present Manual is one such bold step.

INDIAN INSTITUTE OF TECHNOLOGY
BOMBAY
[illegible]

Advertisement No. H-139/95-96

Invites applications for FACULTY POSITIONS at the **ASSOCIATE PROFESSOR** and **ASSISTANT PROFESSOR** levels for its SCHOOL OF MANAGEMENT.

The Institute is starting a new two-year programme on Management with a strong focus on Technology and Manufacturing Management, projecting technology as a strategic resource to gain competitive advantage. The programme is expected to equip prospective managers with skills for managing the development of technology and its transfer by providing an understanding of the innovation process and the ways in which new products or processes can be developed and diffused in an environment which calls for shorter product life cycles, use of strategic alliances and sophisticated design and manufacturing tools.

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The posts carry allowances which correspond to those admissible to Central Government employees stationed at Bombay. Total emoluments on the minimum of the scale including H.R.A. would be Rs. 10075/- and Rs. 9075/- respectively at the current rate of D.A. Depending upon the qualifications and experience, higher salary may be offered to deserving cases.

The prescribed application forms can be obtained from the Registrar, IIT, Bombay-76 on request accompanied by a self-addressed envelope of 25 cm x 10 cm size.

Candidates other than those belonging to SC/ST communities must send a Demand Draft for Rs. 30/- drawn on any nationalised bank, in favour of Registrar, IIT, Powai, Bombay-76.

Persons employed in Government/Semi-Government organisations or educational institutions must apply through proper channel.

Application forms completed in all respects are to be submitted by Indian citizens along with a detailed resume, copies of three key publications and a summary of research plans and teaching interests, latest by **24.7.1995**.

Applicants currently residing outside India may apply on plain paper with a detailed curriculum vitae accompanied by the material mentioned above as well as names and addresses of four referees, by **31.7.1995.**

Registrar

COMMUNICATION

Time Management of Teachers

Meena Hariharan in her article "Time Management of College Teachers : Some Issues" (*University News*, 22 May, 1995) has presented very interesting study. Unlike traditional statistics, here it reveals more than it conceals.

None of the college teachers whom I have met has ever complained that he does not have enough time on hand for adequate academic activity. In fact, he complains that he has not enough scope for enhancing his academic time activities directly related to students due to mundane, though real, reasons. Classrooms all overcrowded; College buildings are used by shifts — particularly for Arts, Commerce and Education.

There is no academic compulsion for self-study for extended hours on account of highly examination-oriented learning and structured, routine and repetitive examination papers. It is therefore not surprising — in spite of its being apparent paradox — that "Teachers with responsibilities besides teaching" clock in more academic time (5.46) than "Teachers with no additional responsibilities besides teaching" (4.50)! Likewise, those who have more workload clock in less academic time (5.07) than those who have less work load (5.52)! Time-study and time-estimates are very sensitive issues in shop-floors when actual data can be realistically collected; on academic arena these are only guess-estimates which would defy generalisations, for the simple reason that there are also teachers who indulge in self-study beyond the need of current job performance to promote self-esteem and pride in the profession. Attributes of this tribe are not restricted in any one category like experienced, fresh, more loaded, less loaded, having additional responsibility, etc.

N R Dave,
Vice-Chancellor,
North Gujarat University,
Patan-384 265

Shirker Invigilators

Padma Jha's short article "The Invigilator," (*University News*, 8th May, '95) quite correctly classified the invigilators according to their nature. I would only like to add one more classification; there are invigilators who can simply be termed as 'shirkers'. Usually these shirking band of invigilators are senior teachers (no offence meant to my respected senior colleagues) who develop, in course of their teaching career, a peculiar attitude of nonchalance in academic affairs. In examination hall if they have the opportunity to share their responsibility with junior colleagues they just thin out quietly of the examination hall once the verification of the examinee-identity is complete. At times they don't even have the courtesy to inform the co-invigilator that they were going out. And once they go out only God knows when they will be back to the examination hall. They shirk their duties for quite considerable period of time during the examination.

Such shirker invigilators can best be brought to book by their co-invigilators who should decently protest against such gross irresponsible conduct. If necessary, they may raise such issues in the respective teachers' council meetings *without being specific about any* particular teacher-invigilator.

G.B. Sural,
Dept. of English,
Bankura Christian College,
Bankura - 722 101.

UNIVERSITY OF DELHI

Advt. No. Estab.IV/95 Dated: June 17, 95

Applications on the prescribed form are invited for the post of **PRINCIPAL, School of Correspondence Courses & Continuing Education,** University of Delhi in the scale of pay of Rs. 4500-150-5700-200-7300 with allowances and other benefits as permissible under the rules of the University, so as to reach the Registrar, University of Delhi, Delhi-110007, latest by July 17, 1995.

Qualifications :

Essential : i) Good academic record with atleast second class (C in the seven-point scale) *Master's Degree in a relevant subject from* an *Indian University or* an equivalent degree from a foreign university with Doctor's degree or equivalent published work and teaching experience of degree classes of not less than 10 years; OR

ii) Good academic record with at least second class (C in the seven-point scale) Master's degree in a relevant subject from an Indian University or an equivalent degree from a foreign university with teaching experience of degree classes of not less than 15 years.

Desirable : Administrative experience in a recognized institution teaching degree classes or above.

NOTE : 1. It will be open to the University to consider names of suitable candidates, who may not have applied.

2. Relaxation of any of the qualifications may be made in exceptional cases, on the recommendations of the selection committee.

3. Canvassing in any form by or on behalf of the candidates will disqualify the candidate.

4. Candidates from outside Delhi when called for interview will be paid to and fro single second class rail fare.

Application form and other details regarding qualification etc. can be obtained from the **Estab.Br.IV (Room No.205), New Administrative Block, University of Delhi, Delhi-110007** between 10 A.M. - 5 P.M. on all working days either personally or by sending a self addressed & postage stamped envelope worth Rs. 6/- (Size 13cm x 28cm).

PROF. S. K. WASAN
REGISTRAR

RESEARCH IN PROGRESS

A list of research scholars registered for doctoral degrees in Indian Universities

SOCIAL SCIENCES

Sociology

1. Anitha, M V. **Impact of primary health centres on medical care of women.** Kerala. Dr Jacob John Kattakayam, K 37, Kailas Nagar, Pattom, Trivandrum.

Political Science

1. *Acharya, Ila.* **Swami Vivekanand ka rajnitik chintan va uski prasangikata.** Vikram. Dr Gopal Krishan Sharma, Asstt Prof, School of Studies in Political Science, Vikram University, Ujjain.

2. Mehta, Suresh Kumar. **Char rajyon mein Rashtrapati shasan 1992 : Ek rajnaitik vaidhik vishleshan.** Vikram. Dr Mahesh Maheshwari, School of Studies in Political Science, Vikram University, Ujjain.

3. Tewari, Vandana. **Shri Arvind ka rajnitik chintan aur uski prasangikata.** Vikram. Dr Mahesh Maheshwari, School of Studies in Political Science, Vikram University, Ujjain.

4. Thomas, Fr Baby. **The abstention movement : A study.** Kerala. Dr N K Bhaskaran, Department of Politics, University of Kerala, Kariavattom.

Law

1. Anand, Rishi Dev. **Right to education and minority institutions : A study under the Constitution of India.** Panjab. Prof V K Bansal, Chairman, Department of Laws, Panjab University, Chandigarh.

Public Administration

1. Das, Kalpana. **Administration of Integrated Rural Development Programme in the Aizawl District of Mizoram.** Panjab. Prof Arvind K Sharma, Indian Institute of Public Administration, New Delhi and Dr R K Sapru, Department of Public Administration, Panjab University, Chandigarh.

2. Dhaneja, Alka. **Training of non-gazetted police personnel : A case study of Delhi Police.** Panjab. Dr S L Kaushik, Department of Public Administration, Panjab University, Chandigarh and Prof R K Tiwari, Indian Institute of Public Administration, New Delhi.

3. Rana, Joginder Singh. **Role of Integrated Rural Development Programme in socio-economic transformation in Himachal Pradesh.** Panjab. Dr Pawan K Kamra, Department of Public Administration, Panjab University, Chandigarh.

4. Ranga, Ram Krishna. **Family planning administration in India : A case study of Haryana.** Panjab. Dr S L Goel, Department of Public Administration, Directorate of Correspondence Courses, Panjab University, Chandigarh.

Education

1. Bindu, T V. **A comparative study of certain affective and social familial variables that discriminate discrepant achievers in the different subjects of study among secondary school students.** Kerala. Dr P Visanathan Nair, Reader, Department of Education, University of Kerala, Trivandrum.

2. Dinesh Kumar. **A normative study of physical fitness of Himachal Pradesh high and higher secondary school boys.** Panjab. Dr Harnam Singh and Dr S N Sharma, Department of Physical Education, Panjab University, Chandigarh.

3. Ganapathy, A. **Wastage and stagnation in secondary education : A socio-economic analysis with special reference to tribals in Kerala.** Kerala. Dr Vasantha Ramkumar, Prof, Department of Education, University of Kerala, Thycaud.

4. Jesa, M. **A comparative study of the effectiveness of different methods and approaches in the teaching of English.** Kerala. Dr Vasantha Ramkumar, Prof, Department of Education, University of Kerala, Thycaud.

5. Khullar, Rajni. **Self concept of urban and rural girls in relation to some cognitive variables.** Panjab. Dr S C Gakhar, Department of Education, Panjab University, Chandigarh.

6. Manoharan, A. **Computation of physical fitness norms for girls of the junior colleges in Solapur District.** Shivaji. Dr M L Gharote, Department of Education, Shivaji University, Kolhapur.

7. Michael, Messeret Assefa Wolde. **A study of intelligence, locus of control and well-being of adolescents in Addis Ababa Ethiopia.** Panjab. Dr Asha Gupta, Department of Education, Panjab University, Chandigarh.

8. Ogogo, Collins Omondi. **Mastery learning situations with generalization and analogy as advance organizers and their impact on learning outcomes of high school students in relation to their cognitive style.** Panjab. Dr (Mrs) Malvinder Ahuja, Department of Education, Panjab University, Chandigarh.

9. Panyawong-ngam, Leechai. **Dissatisfaction among students and teachers of secondary schools of Thailand in relation to the administrative set up.** Panjab. Dr (Mrs) Vinit Khera, Department of Education, Panjab University, Chandigarh.

10. Puneet. **A study of institutional climate of Navodaya Vidyalayas of Panjab, Haryana, Himachal Pradesh and Union Territory of Chandigarh.** Panjab. Prof J N Joshi, Department of Education, Panjab University, Chandigarh.

11. Sharma, Reena. **The effect of mastery learning strategies on the learning outcomes of secondary students in relation to stress.** Panjab. Dr Anand Bhushan and Dr Malvinder Ahuja, Department of Education, Panjab University, Chandigarh.

12. Shashi Kiran. **Effectiveness of competency based learning system on achievement in relation to place of residence and socio-economic status in Government and private**

Ahuja, Department of Education, Panjab University, Chandigarh.

12. Shashi Kiran. **Effectiveness of competency based learning system on achievement in relation to place of residence and socio-economic status in Government and private schools.** Panjab. Dr G S Sodhi, Department of Education, Panjab University, Chandigarh.

Commerce

1. Nadkarni, Sandip. **Soya udyog ka vittiya vishleshan : Ujjain Sambhag ke vishesh sandarbh mein.** Vikram. Dr R S Patel, Prof and Head, Department of Commerce, Govt Madhav College, Ujjain.

2. Patil, Sunil Yuvagonda. **Strategy for resettlement of project affected persons in Maharashtra with reference to Warana Irrigation Project.** Shivaji. Dr V M Chavan, Department of Commerce, Shivaji University, Ujjain.

Management

1. Arumugham, R. **Role of international agencies in Indian rural development.** Pondicherry. Prof S V Narayanan, Director, Centre for Tourism Studies, Pondicherry University, Pondicherry.

2. Janakiraman. **Bank training programs : An evaluation.** Pondicherry. Prof S V Narayanan, Director, Centre for Tourism Studies, Pondicherry University, Pondicherry.

3. Saha, S. **Tourism : A marketing approach.** Pondicherry. Prof S V Narayanan, Director, Centre for Tourism Studies, Pondicherry University, Pondicherry.

4. Swaminathan, K. **Transfer of technology : The Indo-US experience.** Pondicherry. Prof S V Narayanan, Director, Centre for Tourism Studies, Pondicherry University, Pondicherry.

HUMANITIES

Philosophy

1. Vivek Kumar. **Madhyugin sant parampra aur uska Gandhi chintan per prabhav.** Panjab. Dr Manohar Lal Sharma, Department of Gandhian Studies, Panjab University, Chandigarh and Dr Kuldip Chand Agnihotri, B B N College, Chakmoh.

Fine Arts

Music

1. Anjali. **Adhunik vyavsayik sugam sangit mein vadyon kee bhumika.** HP. Dr R S Shandil, Department of Performing and Visual Arts, Himachal Pradesh University, Shimla.

2. Garg, Kirti. **Shimla Solan kshetra ke dev geeton ka sangitik vishleshan.** HP. Dr C L Verma, Department of Perfoming and Visual Arts, Himachal Pradesh University, Shimla.

3. Jeet Ram. **Adhunik shastriya gayan ka vyavsayik paksh.** HP. Dr C L Verma, Department of Performing and Visual Arts, Himachal Pradesh University, Shimla.

4. Sharma, Shobha. **Rudra veena evam vichitra veena : Unmesh, vadan vidhi evem kalakar.** Panjab. Dr (Mrs) Saroj Ghosh, Department of Music, Panjab University, Chandigarh.

5. Thakur, Seema. **Thakur Jaidev Singh : Unke sarvonmukhi krititva ka parisheelan.** HP. Dr I Chakravarti, Department of Performing and Visual Arts, Himachal Pradesh University, Shimla.

6. Verma, Anu. **Hindustani sangit ke saidhantik evam prayog paksha mein adhunik granthkaron ka yogdan, 1950 se 1990 tak.** HP. Dr C L Verma, Department of Performing and Visual Arts, Himachal Pradesh University, Shimla.

Language & Literature

English

1. Kahlon, Maneeta. **The interplay of love, power and solitude in the selected works of Gabriel Garcia Marquez.** Panjab. Dr (Mrs) Pratibha Nagpal, Department of English, Panjab University, Chandigarh.

2. Thind, Pavneet. **A sociolinguistic study of young and adult English speakers in Chandigarh with reference to the role of media in language change.** Panjab. Dr (Mrs) Pushpinder Syal, Department of English, Panjab University, Chandigarh.

3. Venkata Padma, Kovi. **English spoken by college teachers of English in Tamilnadu : A socio-phonological study.** Madras. Dr J Antony Pitchai, Lecturer, Presidency College, Madras.

Sanskrit

1. Sharma, Gian Chand. **Harvijay Mahakavya mein prakriti chitran.** Panjab. Dr Ghanshyam Sharma, Vishveshvaranand Vishwa Bandhu Institute of Sanskrit and Indological Studies, Panjab University, Hoshiarpur.

2. Sharma, Phool Kumar. **Sanskrit-sahitya mein Parsurama : Ek sameekshatmak adhyayan.** Panjab. Dr D R Sharma, Department of Sanskrit, Panjab University, Chandigarh.

Punjabi

1. Amarjeet Kaur. **Dr Roshan Lal Ahuja dee natrachna : Mulankan ate yogdan.** Panjab. Dr Manjit Singh, School of Punjabi Studies, Panjab University, Chandigarh.

2. Chander Mohan. **Sukhbir de navalan da samaj shastriya adhyayan.** Panjab. Dr Raghbir Singh Sirjena, School of Punjabi Studies, Panjab University, Chandigarh.

3. Harnek Singh. **Pattalkav-lokdharak adhyayan.** Panjab. Dr Ujjagar Singh, Directorate of Correspondence Studies, Panjab University, Chandigarh.

4. Jarnail Singh. **A comparative study of mysticism in the poetry of Walt Whitman and Prof Puran Singh.** Panjab. Prof Naresh, Department of Bhai Vir Singh Chair, Panjab University, Chandigarh and Prof M L Raina, Department of English, Panjab University, Chandigarh.

5. Suman Kumari. **Surjit Singh Sethi da nat sandarbh.** Panjab. Dr Raghbir Singh, School of Punjabi Studies, Panjab University, Chandigarh.

6. Ujjagar Singh. **Guru Ravi Das Bani vich jeev ate jagat da**

sankalap. Panjab. Dr Amar Kamal, Kacha College Road, Barnala and Dr D P Singhal, Department of Guru Ravi Das Chair, Panjab University, Chandigarh.

Hindi

1. Dhawan, Rajinder Kumar. **Swatantrayottar Hindi patrakarita aur sahityakar : Antah sambandhon ka adhyayan**. Panjab. Dr Paresh, Department of Hindi, Panjab University, Chandigarh.

2. Ranawat, Harinder. **Samkaleen Hindi natak mithak ke sandarbh mein**. Panjab. Dr Virendra Mehendiratta, H No 696, Sector 11, Chandigarh.

3. Ranjit Kaur. **Vrindavan Lal Verma aur Hazari Prasad Dwivedi ke upanyason mein itihas bodh : Tulnatmak adhyayan**. Panjab. Dr (Mrs) Santosh Sharma, Department of Hindi, Panjab University, Chandigarh.

4. Sharma, Lokesh. **Tulsi ke kavya mein varnit vivah tatha anya sanskaron ka shastriya va lokik swarup**. Panjab. Dr Lakshmi Narain Sharma, Department of Hindi, Panjab University, Chandigarh.

5. Susmitha, O V. **Social consciousness in stories of Yashpal and Kasav Dev : An analytical study**. Kerala. Dr Vellayani Arjunan, Anugraha, T C 15/622, Udarasiromani Road, Vellayambalan, Trivandrum.

6. Vijayakumar, N. **Prasad aur Asan ke kavyon ka darshanik dharathal : Tulanatmak adhyayan**. Kerala. Dr Christudas Chandran, Asst Director, Hindi Reseerch Centre, Kerala Hindi Prachar Sabha, Trivandrum.

Marathi

1. Menkundale, Shivaling Gangadhar **Sambhu Raju yanchya shahiricha abhyas**. Shivaji. Dr S R Chavan, Department of Marathi, Kisan Veer Mahavidyalaya, Wai.

Geography

1. Ramachandran, M. **Integrated command area development with particular reference to land use planning : A case study**. Kerala. Dr Srikumar Chathopadhyay, Scientist, Centre for Earth Science Studies, Trivandrum.

History

1. Chauhan, Amar Chand. **Himachal Pradesh ke Kullu Jile ke bahri Siraj kshetra ka samajik, sanskritik evam arthik adhyayan, 1901 se 1966**. HP. Dr T L Sharma, Department of History, Himachal Pradesh University, Shimla.

2. Chauhan, Rajesh. **Political agitations and reform movements in Himachal Pradesh, 1800-1948**. HP. Dr M S Ahluwalia, Department of History, Himachal Pradesh University, Shimla.

3. Chauhan, Suman. **Social organisation and land control : A study of the role of temples in Kullu and Shimla**. HP. Dr Chetan Singh, Department of History, Himachal Pradesh University, Shimla.

4. Kurmi, Manoj Kumar. **Jyotish ke sandarbh mein Vedic samhitayon ka adhyayan**. HS Gour. Dr S K Bajpai.

5. Satya Devi. **Towards statehood : Factors responsible for the genesis and formation of Himachal Pradesh**. HP. Dr A R Khan, Department of History, Himachal Pradesh University, Shimla.

6. Saxena, Beli Ram. **Fairs and festivals of Rampur Bashahar and surrounding areas : A social economic and cultural analysis**. HP. Dr T L Sharma, Department of History, Himachal Pradesh Unviersity, Shimla.

7. Sharma, Om Prakash. **The liberation struggle in India : Secular trends, Swadeshi to independence**. HP. Dr S K Gupta, Department of History, Himachal Pradesh University, Shimla.

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Asha Rani, Y. **Correlates and psychological management of labour pain, anxiety and depression during pregnancy and post-partum**. Madras. Dr V D Swaminathan.

2. Bhatt, Pravinchandra Shivshanker. **A comparative study of superstitions among male and female students of Rajkot District**. Bhavnagar. Late Dr K D Bhatt and N H Kamdar, Lecturer, Samaldas Arts College, Bhavnagar.

3. Deepa, P. **Self-concept and training for its enhancement among institutionalised destitute, orthopaedically handicapped and normal adolescents**. Madras. Dr V D Swaminathan.

4. *Joshi, Usha Kiran*. ***Uchchattar madhyamik shalayon kee uchch evam nimna shaikshik uplabdhi wale shahri evam grameen chhatra chhatrayonkee mansik sajagata va samajik paripakvata ka adhyayan***. *Durgavati. Dr R P Shrivastava, 1286,* Jaiprakash Nagar, Jabalpur.

5. Kalpana, V. **A study of dual-role adjustment and related variables among professional women**. Madras. Dr M S Kalanidhi.

6. Karthikeyan, R. **Behavioural treatment of sexual dys-**

functions among men. Madras. Dr V D Swaminathan.

7. Rahman, Intekhabur. **A study of organizational change,OC with special reference to supervisory behaviour and work related variables.** AMU. Prof S Sultan Akhtar.

8. Shahin Ahmed. **Effect of playing Volley Ball on he psycho-social development of the institutionalized female juvenile delinquents.** Madras. Dr V D Swaminathan.

Sociology

1. Chowdhury, Sanjib Datta. **A sociological study of institutionalised ageing.** Delhi.

2. Gandhe, Asha. **Ratlam Jile kee Bhil Janjati per Kalyan Yojanayon ke prabhav ka adhyayan.** Vikram. Shri S N Sharma, Prof, Department of Sociology. Sandipani College, Ujjain.

3. Ganesh, C. **The changing social structure of rural Telangana: A sociological study.** Osmania. Prof Y B Abbasayulu, Department of Sociology, Osmania University, Hyderabad.

4. Karuppiah, A. **A sociological study of Kottaipatty village in Madurai District, Tamil Nadu.** Madras. Prof D Sundaram.

5. Madagi, Shivakumar Basappa. **A study of internal migration in India through statistical models.** Karnatak. Dr A S Kadi, Department of Statistics, Karnatak University, Dharwad.

6. Mohammed Bader Jameel. **Sociological study of social preventive and rehabilitative and dimensions of T B patients: A sociological analysis.** Nagpur. Dr P S Bobde, Reader, P G Department of Sociology, Hislop College, Nagpur.

7. Monterio, Anjali. **State, subject and the "TEXT": The construction of meaning in television.** Goa. Shri S R Phal and Dr Ashish Nandy.

Social Anthropology

1. Surendran, P. **The weaker sections of the population of Kasaragod.** Calicut. Dr P R G Mathur, P O Agraharam, Palghat.

2. Thamizoli, P. **Developmental communication with special reference to agro-husbandary practices among the Irula of Nilgiris, Tamil Nadu.** Madras. Dr V Sudarsan.

Social Work

1. Bhardwaj, Aruna. **Emergence of women police in Delhi.** Delhi.

2. Joshi, Yogesh B. **Current approaches to personnel management in india.** Jamia. Prof Husain Yasin Siddqui, Department of Social Work, Jamia Millia Islamia, New Delhi.

Political Science

1. Chandran, S. Karl Marx and Sigmund Freud: **A psychoanalytic critique and reconstruction of Marxism.** Madras. Dr S Koteeswara Prasad.

2. Charu Lata. **The role of military in politics: A case study of Bangladesh.** HP.

3. Chengappa, B M. **Sino-Indian relations in the post Nehru period: A study of selected issues.** Bangalore. Dr P S Jayaramu, Prof, Department of Political Science, Bangalore University, Bangalore.

4. Cholkar, Parag G. **Gandhian theory of the State.** Nagpur. Dr Usha Mehta, Mani Bhavan, Gandhi Sangrahalaya, 19 Laburnum Road, Gamdevi, Bombay

5. Dash, Girish Kumar. **Impact of income generating schemes on tribal women under ITDA: A case study of Jaypore, Orissa.** Delhi.

6. Ezhilarasi, M. **Malaysia's relations with Indonesia, 1957-1966.** Madras. Prof V Suryanarayana.

7. Jain, Sanjay Kumar. **Cambodian problem in the foreign policies of China and India, 1970-1985.** JNU. Prof Parimal Kumar Das, Centre for South, Central, South-East Asian and South-West Pacific Studies, Jawaharlal Nehru University, New Delhi.

8. Kalita, Rekha. **Impact of socio-cultural factors on womens development in Assam.** Gauhati. Dr (Mrs) K Medhi.

9. Mehta, Sashi. **Navin Loksabha mein Jawara Nagar ke matdatayon ke matdan vyavhar ka adhyayan: Ek vyavaharik adhyayan.** Vikram. Shri Gopal K Sharma, Asstt Prof, Department of Political Science, Vikram University, Ujjain.

10. Mishra, Arup Kumar. **Politics of land reforms in West Bengal, 1972-1982.** Burdwan. Sri A K Mukhopadhyay, Reader, Department of Political Science, University of Burdwan, Burdwan.

11. Ravi, K C. **Distribution of powers between the centre and states with special reference to Seventh Schedule of the Indian Constitution.** Madras. Dr S Hamsapriya.

12. Sharma, Nisha. **Swatantrayottar Bharat main samajik samasyaon ke rajnitik ayam: Jatiya samasyayon ke vishesh sandarbh mein.** Ravishankar. Dr Saroj Mishra, Prabhu Kutir, Balodabazar.

13. Yashpal, P. **Study of the regional political parties of Andhra Pradesh with special reference to Telugu Desham Party.** Vikram. Dr (Mrs) Rashmi Shrivastava, Prof, Department of Political Science, Vikram University, Ujjain.

Economics

1. Cauvery, R. **Acreage response to price: A case study of groundnut in Tamil Nadu.** *D.Litt.* Madras.

2. Deka, Hem Ch. **A study on regulated markets in Assam.** Gauhati. Dr K K Berman, Reader, Department of Economics, Guahati Univrsity, Guwahati.

3. Dhanasekaran, S. **Socio-economic conditions of Adi-Andhras in Tamil Nadu with special reference to the City of Madras.** Madras. Dr V Laganathan.

4. Kalimulla Mohd Ishaq. **Adoption of sugarcane production technology and it's socio-economic impact in Basmat Taluka.** Marathwada Agrl. Dr B S Mahajan, Prof (Retd), Extension Education College of Agriculture, Parbhani.

5. Khan, Ishrat. **Madhya Pradesh Sadak Parivahan mein Madhya Pradesh Rajya Sadak Parivahan Nigam ka yogdan.** Vikram. Mrs S Murthy, Prof and Head, Department of Economics, Vikram University, Ujjain.

6 Kokrady, Anil S. **Energy use in selected Indian industries.** Delhi.

7. Mohanam, T C. **The determinants of fertilizer consumption and its growth in Tamil Nadu, 1950-88.** Madras. D R Rajkumar.

8. Nandagopal, R. **Economics of Brackishwater Shrimp culture in Thanjavur District: A case study Madras.** Madras. Dr John Dickie Sams.

9. Palanivel, T. **Inter sectoral terms of trade and resource flows: Some implications for agricultural output, income and poverty in India.** Delhi.

10. Rukmani, R. **The process of urbanisation and socioeconomic change in Tamil Nadu, 1901-21.** Madras. Dr K Nagaraj.

11. Vaithinathan, R. Own tax revenues of Tamil Nadu: **A study of the performance of selected taxes, 1974-75 to 1989-90.** Madras. Dr M Naganathan.

12. Verma, Basant Kumar. **Madhya Pradesh ke Pashchim Nimar Jile mein karyarat Adim jati sewa sehkari samitiyon ke karyakalapon tatha pragati ka mulyankan.** Vikram. Dr V K Parikh, Asstt Prof, Department of Economics, Vikram University, Ujjain

Law

1. Bhatnagar, Krishna. **Hindu Vidhi ke antragat bharan poshan ka adhikar.** Vikram. Dr B C Kasliwal, 24 Sarvodya Nagar, Indore.

2 D'sa, Angela. **Some aspects of social justice in India.** Goa. Dr A H Doctor.

3. Sapra, Kanwal. **Freedom of Press: A critical and comparative study.** Nagpur. Dr A Laxminath, Prof and Principal, College of Law, Andhra University, Visakhapatnam.

4. Thakur, Kailash Chand. **Envionmental Protection Law in India: A study in policy perspective.** HP.

Public Administration

1. Sharwan Kumar. **The role of co-operatives in agriculture in Himachal Pradesh with special reference to Kinnaur and Bilaspur Districts.** HP.

2. Vaseekaran, K Kennedy Stephensan. **The Madras Metropolitan Development Authority: A study.** Madras. Prof R Balasubramanian.

Education

1. Kamala, P. **Role of Adult education in rural development: A study in the selected villages of two districts in Tamil Nadu.** Madras. Dr John Dicie Sams and Dr Gomathi Mani.

2. Maharjan, Sharada Devi. **Development of an environmental studies science curriculum for primary schools of Nepal.** Delhi.

3. Nilavar, Shobha Shrinivas. **Evaluation of instructional programme of Academic Staff College in the college teacher performance perspective.** Karnatak. Dr K Ramachandrachar, Prof, Department of Education, Karnatak University, Dharwad.

4. Prajapati, Bhagubhai Ishwarbhai. **A study of the reading comprehension of the students of standard VIII of Bharuch District in the subject.** Patel. Dr J K Dave.

5. Sahu, Hare Krushna. **A critical appraisal of UGC T V programme.** Sambalpur. Dr Jaganath Mohaty, Principal (Retd), 2935 Gaurinagar, Bhubaneswar.

6. Selvaraju, K. **Correlates of effective schools.** Madras. Dr P S Balasubramanian.

7. Sumathy, M. **Hemisphericity, divergent thinking and problem solving ability in physical science of the plus two students in Salem.** Madras. Dr P S Balasubramanian.

8. Tyagi, Brahamjit Singh. **A critique of humanistic formulations in modern Indian thought and educaiton.** Delhi.

9. Villi, C. **Study of women learners who had dropped out of the Open University System of the University of Madras.** Madras. Dr R Jayagopal.

Commerce

1. Abd EL Mukdi Majdi Salah. **A comparative study of the effectiveness of the celebrity and unknown models in advertising messages on the brand beliefs of the consumer audiences.** Baroda.

2. Anwar, Mohammed Sohel. **Madhya Pradesh mein sinchai: Chhindwara Jile ke vishesh sandarbh mein.** Nagpur. Dr M W Belge, Prof (Retd), Department of Commerce, G S College, Nagpur.

3. Gulhane, S C. **A comparative study of Integrated Rural Development Programme in the districts of Wardha and Nagpur, 1980-1990.** Nagpur. Prof A H Vajre, Department of Management Studies and Research, Dhanwate National College, Nagpur.

4. Iyer, Rajesh V. **Profitability of rural branches of commercial banks in Nagpur District with reference to 1983-1988.** Nagpur. Dr Begge, G S College of Commerce, Nagpur.

5. Kadu, Kailash Shamraoji. **A study of financial management of Municipal Council in Nagpur Division for the period, 1988-91.** Nagpur. Dr S H Palsepure, Nabira Mahavidyalaya, Katol.

6. Kamble, Harshakumar Yamanappa. **Growth and prospects of small industries: A study of Belgaum District.** Karnatak. Dr A B Kalkundrikar, Lecturer, Gogte College, Belgaum.

7. Mohammed Mujeebuddin. **Evaluation of farmers service cooperative societies in Warangal District of Andhra Pradesh, 1980-1990.** Nagpur. Dr A K Kadrekar, Head, Department of Management Studies and Research, Dhanwate National College, Nagpur.

8. Paunikar, Ashok N. **Evaluation and progress of general insurance, business of New India Assurance Co Ltd in Nagpur Division, 1972-1987.** Nagpur. Prof A K Kadrekar, Head, Department of Management and Research Studies, Dhanwate National College, Nagpur.

9. Rathod, P K. **Cost and pricing practices in distillery industry in India.** Saurashtra. Dr N M Khandelwal.

10. Sharma, Naveen Kumar. **Bharatiya ikai pranyas ke karyon ka mulyankan.** Durgavati. Dr D K Sinha, G S College of Commerce and Economics, Jabalpur.

11. Srinivasa Murthy, S. **Lease : Purchase devisions in the Indian corporate sector.** Madras. Dr N P Srinivasan.

12. Subramanian, V. **Behaviour of share prices: A test of weak form of EMH under Indian conditions.** Madras. Dr M Ranaganathan.

13. Thangavel, N. **Consumer rights: Law and practice with special reference to urban and semi urban consumers of selected household durables in Tamil Nadu.** Madras. Dr P Kaliyaperumal.

14. Vasanthakumari, D Diana. **Quality of worklife of middle-level executives: A study based on selected industrial organisations in Tamil Nadu.** Madras. Dr D Amarchand.

Home Science

1. Bhooma, N. **Longterm impact of nutrition intervention on selected rural children below 12 years of age.** Madras. Dr Usha Chandrasekar.

2. Gupta, Sadhana Laxminarayan. **Efficacy of solar-cocker for better home-management.** Nagpur. Dr (Mrs) Asha S Nimkar, Department of Home Science, Nagpur University, Nagpur.

Management

1. Ambika Sharanjit Kaur. **Customer expectation satisfaction: A case study of distance education in Managemnt.** Thapar. Late Prof P K Kapoor and Dr B S Bhatia, Prof, Department of Business Management, Punjabi University, Patiala.

2. Macwan, Edwin Gebrial. **The financial structure of the selected large and medium size drugs and pharmaceutical Public limited companies of Bombay.** Baroda.

3. Shyam Lal. **Participative management in public sector in India: A case study of BHEL.** HP.

4. Singh, Pawan Kumar. **Effect of selected factors : An inter personal conflict management strategies of executives.** Vikram. Dr Nageshwar Rao, Director, Pt Jawaharlal Nehru Institute of Business Management, Ujjain.

5. Yudhvir Singh. **Performance appraisal of Life Insurance Corporation of India.** HP.

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

(HUMAN RESOURCE DEVELOPMENT GROUP)

Advt. No. SRF/RA-EMR-2/95

This is to bring to the attention of all concerned that CSIR has invited applications for awarding SENIOR RESEARCH FELLOWSHIPS and RESEARCH ASSOCIATESHIPS vide an advertisement appearing in July 1st, 1995 issue of EMPLOYMENT NEWS. Eligibility conditions and application proforma are published alongwith the advertisement. The application form may be cut out or copied from advertisement and used.

The last date of receiving applications is July 31st, 1995. The application duly completed in all respects should be sent to the DEPUTY SECRETARY, Extra Mural Research Division, Human Resource Development Group, CSIR Complex, Dr. K.S. Krishnan Marg, NPL Campus, Pusa, New Delhi - 110 012.

CLASSIFIED ADVERTISEMENTS

HIMACHAL PRADESH UNIVERSITY SHIMLA 171005

Advertisement No. 4/95

Applications are invited (on prescribed form) for the following teaching posts as as to reach the **Assistant Registrar, Recruitment Branch, H.P. University, Shimla-171 005,** alongwith a crossed Indian Postal Order of Rs. 20/- (Rs. 5/- for SC/ST) payable to the Finance Officer, HPU by **July 11, 1995** :

I. **PROFESSORS** (Pay Scale : Rs. 4500-7300) in the following subjects of Teaching Deptts.:
   Chemistry - 1 (Spl. in Inorganic Chemistry), **Economics - 1, Political Science -1** (Leave vacancy for about one year)

II. **READERS** (Pay Scale : Rs. 3700-5700) in the following subjects of Teaching Deptts. :
   Bio-Technology - 1 (Spl. in Genetic Engineering or Fermentation Technology), **Chemistry - 1** (Spl. in Organic Chemistry), **Computer Science - 1, Economics - 2, Law - 1, Tourism Admn - 1.**

II. **LECTURERS** (Pay Scale : Rs. 2200-4000) in the following subjects of Teaching Deptts. :
   a) **Bio-Technology - 1** (Spl in Enzyme Technology or Recombinant DNA Technology), **German - 1, Political Science - 1.**
   b) **Reserved for S.C. Candidates : Biotechnology - 1** (Spl. in Immunology), **Commerce - 1.**
   c) **Reserved for Scheduled Tribe Candidates : Commerce - 1, Economics - 1 , Physics - 1, Education - 1, Computer Sci. - 1.**
   For H.P. University Evening College, Shimla :
   History - 1 (For Open/General category)

The qualifications and other conditions for the above mentioned posts will be made available with the application form.

Candidates already in service should send their applications through proper channel. An advance copy, however, may be sent direct.

Candidates called for interview will have to come to the place of the interview at their own expenses and bring with them their original research papers, degrees and certificates etc. for verification.

The University reserves the right to fill up or not to fill up the posts or to call only suitable candidates for interview. The number of posts likely to be filled may vary.

Application form alongwith detailed qualifications and other conditions can be obtained from the **Assistant Registrar, Recruitment Branch, H.P. University, Shimla-171 005,** personally on payment of Rs. 5/- or by making a written request to him accompanied by self-addressed envelope of 23 x 10 cms with postage stamps affixed worth Rs. 2/- and a postal order of Rs. 5/- drawn in favour of Finance Officer, HPU, Shimla.

Note :

i) Applications received on plain paper, applications not in conformity with the requirements as specified in the application form and applications received after the last date will not be entertained and no correspondence will be entertained in this regard.

ii) A person applying for more than one post should send a separate application form for each post.

iii) Persons who have applied earlier for the post of Lecturer in Political Science for open/general category against Advt. No. 2/94, dated 20.1.1994 need not to apply again but their earlier applications will only be considered if they fulfil the latest qualifications for the concerned post. They may send additional information, if any.

A.R. Chauhan
Advt. No. 12/95-PRO **REGISTRAR**

CCS HARYANA AGRICULTURAL UNIVERSITY HISAR

ADVERTISEMENT NO. 1/95

Applications are invited for the following temporary posts on prescribed form obtainable alongwith details of qualifications and other conditions from the Assistant Registrar (R) by sending self addressed unstamped envelope size (23 x 15 cm) alongwith IPO Rs. 5/- for Sr. No. 1 to 17 and Rs. 2/- for remaining posts in the name of Registrar payable at CCSHAU, Hisar Post Office. The said application form duly completed with prescribed fee should reach the Registrar, CCSHAU, Hisar-125 004 by **22.7.95** (**5.8.95** for candidates residing abroad for posts at Sr. No. 1 to 16). Inservice candidates should apply through proper channel.

Professor/equivalent in the pay scale of Rs. 4500-7300

1. Professor of Horticulture - One
2. Professor of Eminence (Sir Chhotu Ram Chair) - One

Associate Professor/equivalent in Rs. 3700-5700

3. Assoc. Professor (Agri. Meteorology) - One
4. Assoc. Professor (Agroforestry) - One

Assistant Professor/equivalents in Rs. 2200-4000

5. Training Assoc.-cum-Junior Scientist (Agroforestry) (at outstations) - Three
   (two reserved for S.C. category)
6. Training Assoc-cum-Junior Scientist (Agril. Engg.) (outstations) - Three
7. Training Assoc-cum-Jr. Scientist (Home Sc.) (at outstations) - Two
   (one reserved for S.C. category)
8. Assistant Prof. (Plant Physiology) - One
9. Asstt. Plant Physiologist (at Bawal & Kaul) - Two
   (one reserved for S.C. category)
10. Asstt. Prof. (APP) - Two
    (one reserved for S.C. category)
11. Asstt. Prof. (Mechcanical Engg.) - One
    (reserved for S.C. category)
12. Asstt. Prof. (Agronomy) at Nilokheri - One
    (reserved for S.C. category)
13. Training Assoc.-cum-Jr. Scientist (Agronomy) at KVK Panipat - One

14. Asstt. Scientist (Vegetable Crops) - One
15. Assistant Scientist (Animal Nutrition) - One (reserved for S.C. category)
16. Asstt. Scientist (Animal Breeding) - One

Non-Teaching Posts

17. *Senior Technical Asstt.* (Vegetable Crops) in Rs. 2000-3200 - Two (one reserved for S.C. category)
18. Technical Asstt. (AFT) in Rs. 1640-2900 - One
19. **Training Assistants in Rs. 1640-2900 in KVKs at outstations**
    - a) Art-cum-AV Aids - Seven (reserved for ESM-2, S.C.-1)
    - b) Animal Husbandry - Seven (reserved for ESM-2, S.C.-1)
    - c) Agronomy - Four (reserved for SC-1, ESM-1)
    - d) Home Sc. - Seven (reserved for ESM-2, SC-1)
    - e) Fisheries - One
    - f) Mushroom - Two (reserved for ESM-1)
    - g) Sericulture - One
    - h) Bee Keeping - Two (reserved for ESM-1)
    - i) Agroforestry - One
20. Technician-Telephone in Rs. 1400-2600 - One
21. Staff Nurse in Rs. 1400-2600 - One (reserved for ESM)
22. Nursery Teacher-Campus School, Kaul in Rs. 1200-2040 - One
23. Dholak Performer in Rs. 950-1500 - One

Note :

1. The number of posts mentioned in the advertisement can be increased or decreased as per requirement.
2. One or more posts can be withdrawn from filling up without notice.
3. Benefit of reservation will be admissible only to those SC/BC/ESM candidates who are domicile of Haryana State.
4. One or more qualifications are relaxable in case of candidates found otherwise outstanding.

REGISTRAR

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION NEW DELHI

Corrigendum to advertisement issued on May 29, 1995 in this Journal.

In column 13 of the application proforma given in the advertisement for the post of Data Entry Operator-cum-Assistant in the AICTE, "Delhi" may also be added in the names of the centres given therein.

The last date for receipt of application is extended from 30.6.95 to **July 10, 1995.**

L.S. Mehra
BUREAU HEAD (Admn)

C.M.S. COLLEGE, Kottayam, Kerala

Pin: 686 001.

Applications are invited for appointment as Lecturers in the vacancies likely to arise during this year.

Lecturer in English - 3 Nos. (Open/Community)

Age & Qualification:- As prescribed by the Mahatma Gandhi University and Government of Kerala.

Apply **within one month** from the date of publication of this notification. Application forms are available from the college office on payment of Rs. 100/= or Rs. 110/= by M.O.

Principal

ST : PETER'S COLLEGE,

KOLENCHERY-682311

WANTED

Lecturers in the following subjects under open merit/Community merit quota.

Subject	**Nature of vacancy**
1. English	1. Temporary anticipating vacancy
2. Malayalam	-do-

The appointment will be provisional subject to the approval of the University and Government. **Qualification**: As per U.G.C. rules. AGE: Should not have completed 36 years as on 1.7.1995. Apply **within one month** from the date of Publication of this notification, ***with copies of all mark lists of examinations passed from graduate level.*** Application form and other details can be obtained from the undersigned on a payment of Rs. 100/- (Rs. 107- by money order only).

PRINCIPAL.

INTER-UNIVERSITY CENTRE (IUC) INDIAN INSTITUTE OF ADVANCED STUDY RASHTRAPATI NIVAS, SHIMLA-171 005

Advertisement No. 2/95

Applications on prescribed form are invited from university and college teachers for Associateship of the Inter-University Centre for Humanities and Social Sciences. The Centre provides opportunities of research and academic interaction in Humanities and Social Sciences. The selected Associates may pursue their own research, revise their doctoral dissertations or work towards completing a piece of research that they might already be engaged in. Broad terms and conditions governing the scheme of Associateship are as under :

1. Minimum stay at the Centre : One month; maximum possible stay at the Centre : Three months.
2. Maintenance allowance : Rs. 100/- per day - for the days of stay at the Centre
3. Travel expenses : Actual return fare for the entitled class limited to AC II or II tier sleeper.
4. Accommodation for the Associate alone.
5. Free medical attendance during the days of stay at the Centre.
6. Library facilities and secretarial assistance.

The prescribed application form may be obtained from the O.S.D. (A) of the Institute by sending a self-addressed stamped envelope (25 cm x 10 cm) affixing postage stamp worth Rs. 2/- (Rupees two only) by ordinary mail or personally from the Institute by July 25, 1995. The completed application forms should reach the Institute latest by **August 31, 1995**.

Application should be routed through proper channel.

—davp 903(2)95

NFATCC NATIONAL FACILITY FOR ANIMAL TISSUE & CELL CULTURE, PUNE

Department of Biotechnology, Govt. of India

Advt. No. 3/1995

The Institute, a NATIONAL LABORATORY involved in Research and Development, Training, Service and Consultancy activities in Biotechnology, Bio-Medical sciences, invites applications and nominations for the following category of Scientists, Associates and Students.

Faculties : Basic Sciences, Veterinary, Medical, Pharmacy, Engineering and Technology. Few posts with qualifications in/flair for Patents Law, Communication/Journalism/Science Reporting, Photography, Computer Science.

SR. NO.	NAME OF THE POST	NO. OF POSTS	AGE LIMIT (YRS.)	POST DOCTORAL EXPERIENCE	PAY SCALE & TOTAL EMOLUMENTS AT MINIMUM (RS.)
1	Scientist 'F'	20	50	20 yrs.	5100-6300 (11,094/-)
2.	Scientist 'E'		50	15 yrs.	4500-5700 (10,075/-)
3.	Scientist 'D'		45	10 yrs.	3700-5000 (9,075/-)
4.	Scientist 'C'		35	5 yrs.	3000-4500 (7,550/-)
5.	Scientist 'B'		32	-	2200-4000 (5,600/-)
6.	Research Associate	6	35	-	2800-3300 OR 3300-3800 OR 3750-4300 OR 4325-5000 + HRA
7	Research Fellow	3			
	a) Sr. Research Fellow		32	-	2800 + HRA
	b) Jr. Research Fellow		28	-	2500 + HRA
8.	Research Associate or SRF (for Project)	3		-	2800-3300 + HRA

The incumbents for the above posts should possess qualification and relevant experience as indicated below, in any of the following and related fields :

Cell & Molecular Biology, Immunology, Genetics, Virology, Micobiology, Biochemistry, Nutrition, Cryobiology, Pharmacology, Physiology, Surgery, Forensic Science, Medicine, Instrumentation, Patents, Science, Communication, Scientific Photography and Cinematography, Computer applications, Programming and Software Development.

Sr. No. of the Post and Minimum qualifications & work experience

1 to 5 The applicants must be doctorate or equivalent with brilliant academic career, proven original/applied research work and having publications or patents in the relevant field.

6, 7 & 8 (RA) Doctorate or equivalent degree **OR** having 3 years experience after M.V.Sc./M.Pharm/ME/M.Tech. in the relevant fields. Those who have submitted their Ph.D. thesis may also apply. However, they will be awarded provisional associateship

(SRF) ME/M.Tech. or equivalent degree in Engineering/Technology **OR** MBBS (with one year internship)/M V.Sc./M.Pharm. **OR** M.Sc./B.V.Sc./B.Pharm./BE/B.Tech or equivalent degree with at least 55% marks and atleast 2 years of post-qualification research experience in the relevant field.

(JRF) Fresh M.Sc./BE/B.Tech or equivalent degree holders in the relevant fields with atleast 55% marks

- The applicants with excellent records who have submitted their Doctoral Thesis or fresh M.V Sc./M.Pharm/M.Tech. will be considered for the post of Scientist 'A' in the pay scale of Rs. 2000-3200.

Application for the above posts should be sent in the following format, superscribing on the envelope the position applied for, scale and Advt. No. addressed to, **the Director, National Facility for Animal Tissue and Cell Culture, "Jopasana", 85/1, Paud Road, Kothrud, Pune - 411 029**, so as to reach before **31st July, 1995**.

(A) Post applied for and Advt. No. (B) Name (C) Sex (D) Date of Birth and age (E) Nationality (F) Caste (G) Address i) Permanent ii) Contact (H) Academic Qualification SSC onwards in detail including marks obtained [**Do not attach original certificates along with application**] (I) Work Experience starting from present employer indicating post held, job responsibilities, scale and total emoluments and reasons for leaving the job (J) Any other Information meriting considerations (K) Name & Address of two referees with whom applicant has worked.

NOTE

1. NFATCC is an autonomous grant-in-aid institution of Dept. of Biotechnology, Ministry of Science & Technology, Govt. of India.
2. Age and Experience may be relaxed in exceptional cases.
3. The reservation in the posts shall be as per the Government Rules.
4. Higher start may be considered in case of outstanding candidates. Candidates if found suitable otherwise but do not have requisite experience may be offered lower scale.
5. Persons already employed in Govt./Semi-Govt. organisations should forward their applications through proper channel
6. Outstation candidates called for interview, would be paid to & fro Ist class train/ST Bus fare for the posts at Sr. No. 1 to 5 and IInd class train/ST Bus fare for the other posts, by shortest route on production of tickets

KANPUR UNIVERSITY, KANPUR

Notification No. KU/R. Camp/1255/95
Dated June 7, 1995

Applications are invited in the prescribed form for appointment to the following posts in the University Departments. The number of posts, the essential qualifications for the faculty positions, the areas of specialization required and the posts for reserved categories and other relevant details are as under :

(A) ***Posts :***

Name of Deptt.	Professor	Reader	Lecturer
English	-	-	1
Business Management	2	2	3
Education	1	1	-
Life Science	1	1	2
Total	4	4	6

(i) Professor (4 Posts) 1 reserved for S.C. & 1 for O.B.C.
(ii) Reader (4 Posts) 1 reserved for S.C. & 1 for O.B.C.
(iii) Lecturer (6 Posts) 1 reserved for S.C. & 2 for O.B.C.

(B) ***Essential Qualifications :***

(a) For Professor : (Pay Scale Rs. 4500-7300)

An eminent scholar with published work of high quality actively engaged in research with ten years experience in Post-graduate teaching and/or research at the University/National level Institutions, including experience of guiding research at doctoral level.

OR

An outstanding scholar with established reputation who had made significant contribution to knowledge.

(b) For Reader : (Pay Scale : Rs. 3700-5700)

(i) Good academic record with doctoral degree or equivalent published work and active engagement in research or innovation in teaching methods or production of teaching materials.
(ii) Either a research degree of doctoral standard or published research work of high standard in journals of repute.
(iii) At least 5 years experience of teaching Post-graduate classes and research; and
(iv) Experience of guiding research at doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge in the discipline concerned.

(c) For Lecturer : (Pay Scale : Rs. 2200-4000)

(i) Good academic record with atleast 55% marks or an equivalent grade at Master's degree level in the relevant subject from an Indian University or an equivalent degree from a Foreign University.
(ii) Candidates besides fulfilling the above qualifications should have cleared the National Eligibility Test for Lecturers conducted by U.G.C. or C.S.I.R.

Relaxation from requirement of a minimum of 55% marks at the Master's degree level is not permissible in any case. However, the candidates belonging to the following categories are exempted from the requirement of clearing the NET :

(a) Those who have been awarded the M. Phil Degree upto 31st December, 1992; and
(b) Those who have been awarded the Doctoral Degree upto 31st December, 1993, or have submitted their Doctoral Thesis upto 31st December, 1993.

Note :For the vacancies for teaching posts in the faculty of Business Management, Post-graduate degree in Management or equivalent and/or experience in teaching MBA classes in an approved Institute/ University is essential.

Specialization required for the above Posts :

(i) **Deptt. of Life Sciences**

For all cadres : Molecular Biology, Bio-Chemistry, Genetics, Bio-Physics, Micro Biology, Immunology

(ii) **Deptt. of Education :**

For all cadres : Philosophy of Education, Educational Technology, Educational Statistics, Special Education.

(iii) **Deptt. of Business Management** :

For all cadres : Marketing Management, Finance and Accounting, Quantitative Techniques and Operation Research, Personnel Management, Production Management, MIS and Computers, Organisation Behaviour.

(iv) **Deptt. of English** :

For Lecturer : English Literature, Linguistics & Language teaching.

Note :The posts are temporary but are likely to be made permanent.

(C) ***How to apply :***

Prescribed application forms can be obtained from the University office either on cash payment of Rs. 100/- or by sending a Bank Draft of Rs. 100/- drawn in favour of the **'Finance Officer, Kanpur University'** along with a self addressed envelope of 25cm. x 12 cm. size affixing postal stamps of Rs. 8.50 only.

Five copies of the completed application in the prescribed form accompanied with a list of books and reprints of research papers published and attested copies of testimonials should reach the University on or before July 31, 1995.

The envelope containing application form should be superscribed with "Application for the post of ....". Address for all correspondence inlcuding application : "REGISTRAR, KANPUR UNIVERSITY, KANPUR-208 024."

Dr. (R.S. Bansal)
Registrar

IPB/2904

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